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ABSTRACT

The theme for the proceedings of the conference is "Technical Education--A Continuing Search for Quality." The topics of the 10 papers included in the proceedings covered the search for quality, technical teacher training, effective student counseling, educational management by objectives, educational management through joint participation with students, educational management through work experience in allied health and in criminal justice (correctional rehabilitation), student development programs, developmental (remedial) programs in the Air Force, and remediation through individualized instruction. The appendixes contain the minutes of the business meeting, the program, and listings of the planning and organization committees, attendees, exhibitors, and past presidents. (JB)

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PROCEEDINGS

ELEVENTH ANNUAL

NATIONAL CLINIC ON TECHNICAL EDUCATION

Sponsored by
American Technical Education Association
and
United States Office of Education
Hosted by
Greenville Technical Education Center
and
South Carolina Board for Technical
and
Comprehensive Education

●

THEME:

"Technical Education-A Continuing Search for Quality"

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March 27-29, 1974

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Carolina Inn
Columbia, South Carolina

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EDUCATION & WELFARE
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THEME:

TECHNICAL EDUCATION - A CONTINUING SEARCH FOR QUALITY

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South Carolina Board for
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PREFACE

The Eleventh National Clinic on Technical Education started with an air of expectancy and ended with a sense of accomplishment. Between Dr. Charles Palmer's warm welcome; Dr. Bob Childer's "tell it like it is" forceful keynote address and Governor John West's concluding speech on "Technical Education in South Carolina" Delegates enjoyed stimulating and interesting presentations from a number of very knowledgeable persons.

Those who took advantage of the opportunity for a pre-conference tour of the Greenville Technical Education Center saw a fine example of technical education meeting the needs of people and playing a vital role in the economic development of South Carolina. Thanks to Dr. Thomas Barton, Jr. and his staff a well planned tour was provided along with a good sample of southern hospitality.

The theme for the conference "Technical Education - A Continuing Search for Quality" ran through all the papers and discussions. The topics touched on many facets ranging from technical teacher training, student counselling, educational management through work experience and student development programs. The presentations now printed in these conference proceedings will make a valuable contribution to the technical education literature. For this, we can all be proud for it takes a critical audience to demand the high caliber of materials presented.

To many of those in attendance, the conference will be remembered as the "Bill Fenninger Conference", for it was so dedicated. The sincere tributes paid to Mr. William N. Fenninger upon his retirement as Executive Director of the American Technical Education Association after more than fifty years of service to technical education was an inspiration to all in our field.

The support of the U.S. Office of Education as co-sponsors of the annual clinic is most invaluable. Through its continued participation and support, technical education takes one giant step forward each year.

To the co-hosts, South Carolina Board for Technical and Comprehensive Education and the Greenville Technical Education Center, we express appreciation for inviting the eleventh annual conference to Columbia, South Carolina. Along with this goes well deserved recognition for the excellent planning for the local arrangements by Mr. Richard Cook and Mr. Jake Sally.

JACK E. TOMPKINS, PRESIDENT
American Technical Education
Association 1973-74

TABLE OF CONTENTS

RESOLUTION FOR WILLIAM N. FENNINGER 7

WELCOMING REMARKS 9
Palmer, Charles E.

SEARCH FOR QUALITY 11
Childers, Bob Eugene

IMPROVING TECHNICAL EDUCATION THROUGH TEACHER TRAINING 15
Phillips, Donald S.

EFFECTIVE COUNSELING FOR EFFECTIVE PROGRAMS 22
Pachucki, Chester

MANAGEMENT BY OBJECTIVES - GENERAL OVERVIEW 27
Stevenson, William W.

JOINT PARTICIPATION FOR PROGRESSIVE CHANGE THROUGH MANAGEMENT BY OBJECTIVES 37
Tompkins, Jack E.

ACHIEVING QUALITY THROUGH SUPERVISED WORK EXPERIENCE - ALLIED HEALTH 45
Workman, W. D., III

ACHIEVING QUALITY THROUGH SUPERVISED WORK EXPERIENCE - CRIMINAL JUSTICE 50
Fisher, Charles J.

ACHIEVING QUALITY THROUGH A STUDENT DEVELOPMENTAL (REMEDIAL) POST-SECONDARY PROGRAM 59
Cavano, Arthur T.

DEVELOPMENTAL (REMEDIAL) PROGRAMS IN THE SERVICE - AIR FORCE 71
Maxon, Lloyd M.

REMEDIATION THROUGH INDIVIDUALIZED INSTRUCTION 76
Seay, Donna M.

CONCLUDING REMARKS 87
West, John C.

APPENDICES

APPENDIX A - MINUTES OF ATEA BUSINESS MEETING 91

APPENDIX B - THE PROGRAM 93

APPENDIX C - PLANNING & ORGANIZATION COMMITTEES 105

APPENDIX D - ATTENDEES 107

APPENDIX E - EXHIBITORS 120

APPENDIX F - PAST PRESIDENTS OF ATEA 121

RESOLUTION

for

WILLIAM N. FENNINGER

WHEREAS Mr. William N. Fenninger has demonstrated a life-long involvement in educating the youth of the nation for the world of work, and

WHEREAS he has been instrumental in establishing standards of excellence for post-secondary technical education, and

WHEREAS he has served with distinction and personal sacrifice as the first Executive Secretary of the American Technical Education Association from 1958 to 1973, and

WHEREAS he has been recognized by professional organizations and governmental agencies for his outstanding contributions to the field of technical education,

BE IT THEREFORE RESOLVED that the Eleventh Annual Clinic on Technical Education held in Columbia, South Carolina, on March 27 - 29, 1974 be dedicated to Mr. William N. Fenninger for his outstanding dedication to the field of technical education.

WELCOMING REMARKS TO THE NATIONAL CLINIC ON TECHNICAL EDUCATION

Dr. Charles E. Palmer, Executive Director
South Carolina State Board for Technical & Comprehensive Education

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On Behalf of our State TEC System, I welcome you to South Carolina and to the 1974 11th Annual National Clinic on Technical Education. I am pleased to be a part of today's program which I feel is directed toward people who share many of the goals and aspirations which are so important and which mean so much to the people of South Carolina.

We are grateful to the American Technical Education Association for sponsoring this Clinic which, incidentally, is the first to be held in South Carolina. As I'm sure you noted in your program, it has been resolved that this Clinic be dedicated to William N. Fenninger, who has given most of his life to educating the youth of our nation. Through his total dedication and his interest in technical education, he has been able to foresee many trends and developments and was instrumental in establishing desirable standards of excellence in the field of postsecondary technical education. Mr. Fenninger, it is an honor and pleasure to have you with us today.

I would also like to express my appreciation to the following individuals who have worked together so closely to make this Clinic possible.

THE NATIONAL PLANNING COMMITTEE -- composed of Walter J. Brooking, Richard Cook, Mary Ellis, Robert A. Ferguson, L. L. Lewis, George Mehallis, Lloyd Phipps, Jake Salley, Odin Stutrud, Jack Tompkins And George Wallace.

THE OTHER HONORARY CHAIRMAN AND MY CO-HOST -- Thomas E. Barton
Also: Dick Cook, Jake Salley and I would like to thank the many committee Chairmen, statewide, who helped make this Clinic possible.

LET ME just say that it's a pleasure to have you here - I'm sure that your contributions will help make this program a complete success.

THE EMPHASIS on this two-day program reflects the theme: "TECHNICAL EDUCATION - A CONTINUING SEARCH FOR QUALITY"

Many of you, as technical educators, have recognized the changing emphasis within education over the past few decades in this country. We have gradually moved away from the ivy covered halls where the emphasis was on considering philosophical and abstract issues to a broader based education which provides day to day skills for immediate use in the world of work.

As the needs of the country have changed, the needs of educators have changed. It is our task in technical education to search out and maintain the highest possible degree of excellence within our programs. Business and industry, which we serve, are very demanding in their expectations that our students perform well not only as technicians, but as people -- as citizens. Our task, therefore, is two-fold: We must provide quality in the technical areas, and quality in our related educational areas. This may imply that I view technical and educational as two separate entities. This is not the case. I simply want to emphasize that our level of expertise within the technical areas of our training programs must continually be refined in order to remain current with the expanding technology of our nation. At the same time, the techniques with which we present this expertise to our students must be the best that we as educators can provide in order to stimulate learning among our students.

7

During this convention, you will be involved in sessions on Teacher Training, Effective Programming, Management by Objectives, and Student Development programs and Individualized Instruction as they relate to trends in Technical Education.

I commend you on your concern in these areas and feel assured that you will benefit from your participation in this conference as you continue your own learning process in your own continuing search for quality.

The South Carolina Technical and Comprehensive Education system, which we refer to as TEC, is pleased to have had a part in making the Conference possible. TEC's thrust is the same as the one your institutions have: to provide well qualified people for the ever changing needs of industry and to provide selfimprovement opportunities for people who are seeking to better themselves.

Over 500,000 South Carolinians have received some form of TEC training during the past 12 years. This includes training for start-up and expansion of industry, short-term classes, one and two-year trade and craft programs. We have continually been concerned with QUALITY in our program offerings. We will continue our emphasis on quality and continue to search for new ways to meet the needs of our students and the world of work to which they aspire, even as you, in your respective institutions and states continue the same effort.

Technical education has meant a lot to South Carolina. It will interest you, I am sure, to learn that there are currently 40,000 students attending the 19 campuses of our State TEC System. Of even greater significance is the fact that 98.2% of these students are enrolled in some form of post secondary vocational and technical education. We intend to maintain this emphasis on education for known job opportunities. Over the last ten years, the results for South Carolina have been fantastic:

1. Personal income has risen from less than $4 billion in 1963 to over $9 billion in 1973.
2. Corporate income taxes have risen from less than $18 million in 1963 to over $60 million in 1973.
3. Individual income taxes were $32 million in 1963 and amounted to $183 million in 1973.
4. Sales tax revenues increased from $80 million in 1963 to over $286 million in 1973.
5. Unemployment in South Carolina is less than half the national average.

The State of South Carolina and our Technical Education System welcomes you and expresses the sincere hope - - and prediction - - that you will have a most interesting, pleasant, and productive National Clinic on Technical Education.

SEARCH FOR QUALITY

B. F. Childers, Executive Director
Commission on Occupational Education
Southern Association of Colleges & Schools

It is a great pleasure to be asked to address such a diverse group of educators as those represented at this, The Eleventh Annual National Clinic on Technical Education. I am most pleased to see the greatly varied types of institutions that are represented. This shows the great variety of the kinds of involvement in the Technical Education sphere by different institutions: Universities, Colleges, Community Colleges, Technical Institutes, Vocational Schools, Industries, and Proprietary Schools of many types.

This diversity is good, and great care must be taken to assure that we never lose that diversity. The worst thing that can happen to our country is to ever allow ourselves to standardize, either the type of institution or the type of program in which technical education is offered.

The topic at hand is that of the search for quality in technical education. The fact that technical education is still adequately insecure, to still be searching for quality, is one of the most singularly gratifying facets about technical education that is conceivable. One of our greater faults of education is found amoung those institutions and programs that have found quality. Such programs "Have it Made" and need no longer to search for anything. These are the schools that are so adept at showing everyone that a simple replica of what we have is adequate and if everyone else will do as we do, no further search is needed.

This reminds me of my youth in the South when the people of our community were identified with clearly discernable characterizations. One of these groups was The "Old Aristocracy"; those of "Quality" whose only concern was for eliminating all contact with those who did not have"it". Woe and degradation fell to that house whose child chanced out of those hallowed halls and allowed the shades of darkness to mellow the light of quality. The result was that the quality of yesterday is today a dead yoke hung on the neck of progress.

Woe be to Technical Education to allow any such yoke to drag us down.

Such aristocracy cannot be viewed with such disdain if you are looking at quality through the rosy glasses of the gentry. In these eyes there is only one goal - self replication. When outsiders chance on the gentry, then they must be cleaned up to respectability so that others of quality can drink mint julips without holding a perfumed napkin to ease the smell.

One of the facts of society is an unwritten law of "Social Gravity". Nearly everyone in our society seeks to raise themselves above their current social status. This is expecially true of any parent for their child. The law stated in short form is, "Every person and institution seeks to raise himself to the next highest level of social acceptability". This is most aptly illustrated by the sequencing cycle that institutions go through when a vocational school "raises" itself to the level of technical institute, then "raises" itself to that of a community college, then senior college, then university, at which point branches are created to serve those of less quality in vocational and technical education.

The whole issue that I am seeking to state is, "Whose value are we to use as a guide in determining what constitutes quality?"

Every technical program has a diverse group of constituents to which it must relate - students, parents, alumni, academic, other technical programs, and industry. To my mind the first and last are the most crucial. Each of their concepts of quality vary in light of their perspective. What we in technical education must do is relate to each of these pressures but still remain true to the basic philosophy of technical education.

One of the greatest traps we are likely, and are falling into, is that of seeking acceptability by prostituting ourselves to one of these instead of a reasonable and rational balance with them all, with proper emphasis on those that are most crucial.

The student looks at a program in light of his objectives. If he is seeking a job with the training, then he must relate the quality to whether he can get, keep, and be promoted in a job with the training he receives. His basic motive for entering the program is to enter a career field and all ancillary activities relating to the school are immaterial to him at the moment. Degrees, certificates, credits, related activities, are immaterial to his basic goal - a job with reasonable expectations of success through promotion.

For the parent, quality is determined by the social status desired as a result of the job secured, resulting from the program. Cost and time involved in a program are of equal importance.

The alumni tend to think that each succeeding class should be made more difficult than the last to maintain the quality of other graduates and their competitors. Their concern is to the maintenance of their own level of competence and that the standards of admission and completion should be continually upgraded to maintain quality.

We, in technical education, seek acceptance of what we do by relating to other technical programs. We all want acceptability by our peers and adopt many concepts and principles that are common to assure ourselves of peer compatibility. This is good to the extent that we are assured that equal recognition is worthy. In the event students elect to transfer to another institution with a comparable program, the opportunity should be available and only if the programs are similar, at least have common objectives, is such transfer possible. Students must not feel that their geographic locale limits their training opportunity and there should be enough of a common objective in programs to allow ease of transfer, and the opportunity to change when desirable.

One of our greatest considerations must be that we not seek acceptability to the exclusion of others. A common fallacy derived from the social gravity principle is that by lengthening programs and making the entrance requirements more difficult, the program takes on more prestige and is, therefore, of greater value.

To industry and business, value is determined by the quality of the graduate. How well they perform on the job and how well they get along with other people, fellow workers, supervisors, and the management. We must not lose sight of the fact that technical competence, compatibility with others, and responsibility are the three major requisites for all students and workers.

The personnel manager and supervisor expect the school to assure them of these characteristics when a student is certified as capable by graduation. Too often we assure ourselves that the provision of a technical competence is adequate and we have completed our obligation once a student has skills and knowledge of technology. Work habits are learned while in school: Promptness, efficiency, care, concern, reliability. We cannot assume that all students come to us with these characteristics full blown, or that they automatically assimilate them. Care must be taken to assure the development, nurture, and growth among all students.

We must continually assess how students are utilizing those characteristics derived from the program. In order to do this, we must have clear in our minds exactly what we want them to achieve each objective, and how we can measure this achievement.

One of the most common ways of doing this is through advisory committees composed of those that employ the graduates, graduates themselves, and supervisors of graduates. Too often we claim the prestige of advisory committees but never use them except for quarterly dinner meetings, at which time we tell them what a good job we are doing. They must be involved in evaluation, follow-up, and development. I would dare guess that 90% of the advisory committees that are in existence are semi-active or not used to 20% of their potential.

Our society has developed a strange paronia about academia. The academic community cycles through varied levels of community acceptability but has enjoyed a continuing love life that has not significantly lost fulfillment since the Dark Ages. A man with knowledge has everything. In the academic circle, knowledge is derived from the university, therefore, the ultimate is the academic university.

Much of education as it is practiced today has evolved around the university. All traditional sequencing of education eventually leads to the university and a degree.

A liberal education for all. Education for the sake of education. Give ma a man that can read. Higher education for everybody. All of these parlous statements reflect a common concept; that academia has the answer to all the needs of society. Not many of us would agree with these statements as final, but do by tacit agreement by seeking academic acceptance.

The greatest threat to technical education quality is the adulteration of technical programs to make them academically acceptable. We are in a continuous process of adapting programs of the post secondary type to meet the terminology, characteristics, and quality of collegiate programs.

Education by tradition has a sequencing based on a numerical schedule classified by grades or levels. This schedule starts with grade 1 through 12, then college of levels 13 through 16, and graduate school levels 17 through 19 or 20. In recent years, junior colleges have developed that fall into level 13 and 14. With the advent of post secondary schools of the technical specialty type, either as departments of the junior colleges or of seperate institutions, they have been identified as compatible to level 13 and 14 in order to relate to the tradition. For many in the acedemic community, the identity of technical programs has been as terminal type, that is of lesser quality than the liberal education of college.

We claim, justly so, that there is not a lesser quality but a greater quality in technical education, but still seek discreetly or otherwise to be accepted in that academic community. We seek acceptance of our graduates into the four year school and too frequently encourage our students to aspire to more higher education in order to enhance the prestige of our programs.

We cannot afford to ignore the needs of those students that decide to seek further education, but should take care that we not lose sight of the purpose of our program.

We need first to establish that technical education is not a level but a type of education. Forcing technical programs into the characteristic of grades 13 and 14 is an artifical structure that does not relate to the needs of students, but results in a classification system to meet the quality identified by a segment of education whose main purpose is not the same nor frequently even compatible to the purpose of technical education.

If a person graduates from a four year liberal arts college and then decides to attend a technical program, then the sequencing schedule referred to earlier means that the student is in levels 17 and 18. If he feels that he is going back to levels 13 and 14, he considers himself as repeating, which he certainly is not.

To become acceptable, academically, we have adopted a general policy of requiring high school graduation to enter technical programs, but in many technologies this level of achievement is not necessary nor desirable. Program prerequisites and requisites should be based on the specific objectives of the program and not on a level of offering to meet someone else's structure.

Schedules for instruction are developed around artificial segments of instruction related to an acedemic calendar of quarters, semester, or tri-mesters. These are not in order to provide a more perfect technical program, but to meet the requirements of an acedemic calendar. This results in many programs being forced into constraints that make programs too long or too short to meet the full needs of the student or of industry.

Certification of students has evolved from the concept of stating the purpose and type of program completion to that of the degree. In order to be socially accepted, the associate degree is most frequently awarded for a two year program of instruction. This comes under the varying titles of associate in arts, associate in science, associate in applied science, and more recently in the associate in technology. The main reason for each is to make them more palatable to the student and parent, because there is greater social acceptability for the title. The concern to industry is whether or not this term identifies more effectively the actual result of the program.

In order to meet the academic quality standards, a portion of each technical program is offered in academic subjects or sometimes referred to as related subjects. Where these subjects are actually related to the personal and technical competencies of an individual, they are indispensable. Too often, however, they are tacked on to make the program acceptable. We cannot lose sight of the need for developing more than a technician, and where these non-technical subjects accomplish this goal, then they are desired.

My thesis in this discourse has been to point out that quality is a relative term and is determined by the perspective of the beholder. There are several perspectives from which quality is determined. We, as technical educators, must determine what attitude is most important. My theme is that the goal is serving students and, in turn, business and industry. If we listen to the cadence of the academician instead of industry, then we are not achieving a level of quality that will stand the test of time.

All quality is measured on a base of comparison. Whose measure will we use? I hope it is on the base of students and industry need.

IMPROVING TECHNICAL EDUCATION THROUGH TEACHER TRAINING

Don Phillips, Director
Technical Teacher Education
Oklahoma State University

First let me say that I am very pleased to have this opportunity to participate in this conference. I sincerely believe that those of us involved in technical education are engaged in one of the most challenging and exciting areas of education that exists today. I am further convinced that we have more opportunities that make significant contributions that any other educational area.

When wrestling with what to do with the assigned topic several approaches were considered. At first, it seemed feasible to pose as an expert and tell people how to do an outstanding job of preparing technician education personnel. When I learned, however, that some of my Oklahoma colleagues were to attend the conference, I decided against this plan. Then my next thought was to spend the time explaining what now exists and to take credit along with my fellow teacher educators for a job well done. It didn't take much examination to reveal that this strategy had some weaknesses. Finally out of this searching I decided to simply examine some of the issues related to the preparation of personnel and to give my impressions of some of the contributions that technical teacher education can make in our continuing search for quality.

Before going further I would like to state that I am a teacher educator who believes that the final responsibility for quality rests with the instructors who have contact with students. All of our efforts to secure funds, build building, buy equipment, develope curriculum or recruit students are doomed to failure unless we place competent instructors in our classrooms and laboratories. I think teacher education has made important contributions to education and that the potential for greater and more significant contributions still exists. Consequently, the things that I have to say should be evaluated with this in mind.

The rapid expansion of technician education during the past ten to fifteen years is evidence of this nation's ability to identify and solve problems. For a moment let's review some of the achievements of this period. During the late 50's and early 60's considerable effort was devoted to identifying and publicizing the needs for technically trained people to meet the demands of business, industry and government. Voices from many sources were heard calling attention to the changed and changing manpower needs as a result of changes in the labor force brought about by scientific and technological developments. At this time few technician education programs existed. Enrollments were very low, probably not numbering more than a few thousand. The programs that did exist were offered by a small number of institutions and required the talents of a handful of people to teach and adminster the programs.

The contrast between then and now is very striking. In a few short years we have seen a multitude of institutions develop technician training programs. In fact the number of institutions offering these programs today may be larger than the total enrollment of technician education students of fifteen years ago. Program offerings have increased quite drastically and the improvements in physical facilities and equipment are truly fantastic. We really have come a long way.

Changes such as these are observable and rather easy to enumerate. Some changes which are less obvious may in fact be more significant. Let's briefly consider two of these. First the concept of technician education is generally considered to be much broader than it was a few years ago. Not many years ago the majority of technician education programs were in the engineering and science areas. Today, however, we see programs in a variety of areas and the list continues to grow. As an aside it is interesting to observe the development of technician education programs in some of the other areas. Today they are fighting some of the battles and examining some of the issues that were topics of concern in the engineering and science areas in the early 60's. The second important but somewhat subtle accomplishment of recent years deals with the issue of legitimacy. One does not have to go back too far to find a time when there was considerable debate as to whether technician education was a legitimate function of public education that should be supported by public funds. Today this arguement has been quieted and technician education has become an essential function of many institutions. In fact it is rather interesting today to hear some of the criticism that is lodged against public higher education for the failure to do more in this area. One outgrowth of settling the issue of legitimacy has been the move by the regional accrediting associations to develop procedures and standards for evaluating and accrediting institutions with technical education offerings. It is my understanding that each of the regional accrediting associations has given specific attention to this matter. At this point I think it appropriate to say thanks to our friends in the Southern Association for their leadership in this area.

An examination of our accomplishments is fun and can be a source of encouragement. Not only can we make ourselves feel good by reviewing the past, but hopefully we can learn things that will help us do better in the future. As we take time to examine and evaluate we should not devote all of our attention to our successes. We should be objectively critical, keeping in mind that we may not have done all things well. In our rush to build programs, broaden our offerings and serve more people we may have created some problems or at least the potential for problems.

To be very candid I think that we do have some problems in our field. It seems to me that there are some things that we have not done well and some areas in which we can make improvements. Although I have not had a chance to discuss this with the planning committee, the clinic theme and titles of some of the presentations indicate that they also share this opinion.

If we have problems related to program quality it seems important to ask why. Again let me express an opinion. The roots of most of the problems in technical education today can be traced to personnel. Let me hasten to add that this is not meant as an indictment of the people in the field. But rather as an indictment of our system or lack of system for personnel development that results from a philosophy which places little importance on the subject.

Let't look for a moment at the 1963 Vocational Education Act which provided an impetus for growth and development in the total field of vocational and technical education. How much importance did the framers of this legislation assign to personnel development? As I read the Act I think that it says that "not less than three percent of a state's allottment should be expended for ancillary services and activities to assure quality in all vocational education programs, such as teacher training and supervision, program evaluation, special demonstration and experimental programs, development of instructional materials and State administration and leadership, including periodic evaluation of State and local vocational education programs and services in light of information regarding current and projected manpower needs and job opportunities." Nine years after the passage of this Act approximately 3.5 percent of all vocational and technical education funds were being expended for personnel development. How can an expenditure of such small sums be reconciled with the magnitude of the task that was created by the other parts of the legislation? Was there an adequate supply of trained people to plan, develop and operate an expanded program of technical education at the time the legislation was passed or does this reflect an attitude about personnel development?

Specific attention was given to this area when the Education Professions Development Act was passed in 1968. The first funds appropriated under the provisions of this Act became available in FY 1969. Since that time these funds have been used to support personnel development programs in all areas of education including vocational and technical education. In 1970 some eleven institutions were given grants to assist with the development and upgrading of leadership development programs in vocational and technical education at the doctoral level. The following year seven additional institutions received similar grants. A major portion of the grant funds were designated for support of doctoral candidates. To date approximately 300 individuals supported by these funds have completed their doctorates and are employed in the field. While some of us think that this is a positive result others do not. For example, those persons responsible for administering the vocational and technical education part of the EPDA program are currently evaluating the charge that this huge influx of people is creating an over supply.

Some of the rather general assumptions that operate in other segments of our society are also operable in technical education. One of these assumptions is "that a person who is successful in one area is a sure bet to be successful in other areas." To support this, simply look at the number of technically trained personnel in business, industry, government and education who are given assignments for which they have no training. As an example of this I recently heard a gentleman mention that he had spent 11 hours that week in committee meeting discussing labor relations in higher education. In his opinion all of his previous education and training as a church historian was of little usefulness.

Another factor that has influenced our philosophy and programs in the area of personnel development is one that was inherited from higher education. Since many of our programs are housed in institutions of higher education it would only seem natural to emulate their system of preparing teachers. As you are well aware the system of preparing university teachers is to engage people in a Ph. D. program designed to prepare researchers. It is obvious that the product of this process is a good teacher.

Moving from the national to the state level what evidence can we find that states have given serious attention to this matter? How many state plans for vocational and technical education still have a section on qualififications for technical teachers which reads "see trade and industrial education?" None I would hope, but there were several not too many years ago. If these statements were the result of a careful study and analysis by the professionals in the field then there is no cause for concern. If, however, these reflected an attitude of indifference or lack of information then there is cause for concern. Unfortunately, there is some reason to suspect that the later was true in many instances.

Another generalized concept that has impeded our personnel development efforts is "that teacher training for any person who is technically competent is somewhat superficial if not actually unnecessary." This point of view is a result of thinking of the role of the technical instructor as one which requires an individual to teach a prescribed course from textbooks and prepared instructional material in a well developed laboratory and of thinking of teacher training as a process designed to prepare individuals to fill this role. Both of these positions are limited and incongruent with the real world. Unfortunately, much of the thinking in regard to personnel development has been based upon these assumptions.

One last point regarding reasons why we have not done a better job of personnel development. I once heard an individual say that progress like electrons flow in the path of least resistance. Maybe we have drvoted a majority of our attention to other areas because the task was easier and the results more tangible. Maybe it is easier to build a building than it is a teacher and certainly the short-term results are more obvious.

With this as a background let's look at where those of us employed in technical education come from. Where did the thousands of people who have been recruited to fill the vacancies created by the rapid expansion of the past few years come from? How were they trained?

In general these people were recruited from the ranks of business and industry. How many of us had the experience of not knowing what technical education was only one day to find ourselves employed as technical educators the next? What other choices were available? Programs designed to prepare teachers and administrators for these programs simply did not exist. It also made no sense to spend several years preparing personnel prior to developing programs. It was, therefore, necessary to identify those in business and industry who had the necessary technical specialization and to con them into becoming teachers. While this was necessary it is unfortunate that in far too many cases little was done to help them change occupations.

Yes, I mean change occupations. When one leaves industry as a technician, manager, supervisor or whatever and accepts employment as an instructor he has changed occupations. This change is a very important and serious one with social, psychological andphilosophical implications. The individual recruited for teaching is usually very competent in his area of specialization and is often considered a top employee. This is the primary reason why someone wanted him in education. When he leaves industry to become a teacher he is no longer tops in his field. He is now a neophyte in an area for which he has little or no training and in many cases has little understanding of the magnitude of the task that faces him if he is to truly become a professional and move to the top. This change is very difficult for some and impossible for others. How many times have you heard a technical instructor introduce himself as a technical specialist rather than as an educator?

Another result of our casual attitudes toward personnel has been the planning and development of programs without giving attention to what teacher qualifications are needed. Instead the planning process goes from inception to fruition based on the assumption that qualified personnel are available for employment. What sometimes happens is that in the last desparate moments someone is hired to fill the slot. In far too many cases these individuals who are competent in a technical area simply do not have techncial expertise consistent with the objectives of the program.

To this point we have talked primarily about the instructors, but many of the same things exist for others in the field. In fact we may do more to help our teachers than we do administrators. To be very honest I am not sure we yet know what it takes to be successful in some of the administrative positions. Just recently I heard a very experienced and capable technical school administrator wrestling with this very issue in regard to department heads. In this well established institution selecting a new department head is simply a matter of chosing the most promising individual from amoung the teaching faculty. After many years this administrator is beginning to question this process. In his mind he is beginning to think that there may be a better way to prepare department heads.

Probably we should end this discussion of the reasons why we have not done what we have not done in the area of personnel development and begin to look ahead. As we look to the future our proglems and needs are apt to somewhat differ from those of the past. Some of the positive things that we have taken for granted in the past may appear as problems in the future.

In spite of the technical education revolution that I read about in the contemporary press, there is some data which suggests that our enrollments may not increase dramatically in the immediate future. How many of your schools are currently over-run with applicants? In fact there is some evidence to suggest that even today we have considerable unused capacity. Does this mean that we are adequately supplying the current needs for technically trained personnel while operating at less than full capacity? Probably not. Just last week for example I attended a meeting where representatives from several sectors of business industry from several states pleaded with the educational community to prepare more people.

On, the other hand, does the unused capacity indicate that we are currently serving all of the people who need and want technical education? Again I could offer my opinions regarding this question. There are however a number of forces in our society today demanding that we base decisions upon more than opinion. Instead of opinions what we need is objective data.

For discussion purposes let's assume that it is desirable to achieve maximum utilization of our existing educational facilities. This simply means we must have more students. One simple solution to this would be to recruit more students to enter our programs. This may be the best possible approach, however we should at least consider the possibility of developing programs, techniques and strategies for serving those students who enroll in our existing programs, but leave because their needs are not met. To be honest it might be easier and more economical to reduce our dropout rates than it is to recruit larger numbers of students. The accomplishment of this objective would involve the entire educational community, but I submit that the classroom instructors are the key to success. Unless, and until, those people are able and willing to give wholehearted support to the development of such programs success will be minimal. Those instructors who are committed to serving only one type of student will find it difficult to accept the responsibility for educating students with different needs.

Instructional personnel play a key role in the development of programs to meet new and changing needs. An institution that attempts to be responsive to current needs has considerably more personnel problems than one which changes slowly. Unless such an institution is willing to dismiss their faculty when an unneeded program is dropped the faculty members must be willing to move into new areas and assignments. This type of movement is ofter painful and in some cases unbearable. What sometimes happens is a change in curriculm, organization, purpose and objectives, but no change in what takes place within the classrooms and laboratories.

Changing programs to update or to improve quality is a never-ending process which requires creativity and ingenuity. During the past several years many excellent technician education curriculum and instructional materials have been developed. The extent to which these have been used has been limited because instructional personnel often do not know how to adapt the materials to their local situation. The same problem exists with regard to hardware and equipment. In some cases we have seen good equipment discarded and replaced because the local instructor was not able to devise ways and means of using it in new situations.

Closely associated with, if not an integral part of improving programs, is the need to incorporate the findings of research and development projects. While the amount of research and development work in technical education has been limited and most of it has been accomplished in recent years there are some programs that have shown great potential. The extent to which these have been utilized is somewhat disappointing. Again, considerable responsibility for accomplishing this task rests with the technical faculty. In many cases these individuals do not have ready access to research information nor do they have time to make exhaustive searches for research data. In other cases, however, the research data that is made available to the instructors has little impact because they have not been prepared to understand or utilize research findings. In far too many cases we find people who are openly suspicious of anything called research.

It probably goes without saying that the implementation of entirely new programs will be necessary in the years ahead. The opportunity to do this presents one of the most exciting challenges in all of education. This is particularly true of some of the interdisciplinary programs. In this situation you not only have all of the problems that go along with any new program, but you also have to contend with boundary disputes among faculty. I never cease to be amazed at how fast we build up rather strong and firm departmental boundary lines. Here it is extremely important that indicidual faculty members be open-minded and willing to view things from an objective viewpoint. When this is done the problems of implementing an interdisciplinary program are reduced and some faculty members come to see significant advantages of the program. In those cases where judgments about the program are based on emotions untainted by objective data the probability of success is greatly reduced.

At this point we have not said anything about the role of technical teachers in the development and use of educational technology, evaluation and accountability or many other significant areas. Nor have we said anything about the multitude of responsibilities that a teacher has in the day to day teaching process. While these are of fundamental importance, time does not permit an exhaustive cataloging or discussion of many responsibilities of technical teachers. What I have attempted to do is to point out a few of the many ways that technical teachers influence the development and maintenance of quality programs. This provides a setting for examining some of the contributions that can be made by technical teacher education programs.

A technical teacher education faculty should have a major responsibility for providing pre-service programs for technical teachers. If we are to avoid some of the problems that have plagued us in the past it is important that we have more teacher preparation programs that are designed to prepare technical teachers. For the young man or woman who desired to pursue a career in technical teaching we must have well organized and articulated preparation programs. These programs should seek to prepare the individuals to be effective in a changing world. Certainly a major component of a pre-service should be the development of competence in the technology. Within our existing educational structure this may be of the most difficult tasks. The development of teaching competence is also a necessary component of a pre-service program. Here the teacher education faculty should be concerned with the latest developments in educational theory, practice and technology. Another important aspect of the pre-service program deals with attitudes. A quality teacher education program is built upon the notion that teaching can be a scientific activity. While much remains to be done, the goal of a teacher education program should be to produce a professional who knows what the results of his actions will be. To be effective, graduates of our programs must be open-minded and willing to examine issues and seek objective data before making decisions. They must also be willing to re-examine issues and take new positions in ligh of new evidence. I suppose another way to say this is that our graduates need to have "common sense." This probably is the most difficult of all subjects to teach.

Technical instructors must be effective communicators. This means more than developing a facilty with the language. It means being able and willing to learn to communicate with students using their language, as disgusting as this may be. It doesn't seem fair to ask a student to learn something he doesn't know and to do so using a language he doesn't understand. Perhaps a simple example will illustrate this point. Not too long ago I read of an attempt to use a standardized mathematics achievement test with a group of students in a particular location in a ghetto area. One of the questions designed to measure the student't ability to solve simple percentage problems read: "John had 12 apples and gave 4 of them away. What percent of apples did he have left?" Not one student in this group was able to solve this problem. Not because they couldn't do the calculations, but because they couldn't understand the problem. In their culture no one ever gave anything to anyone, therefore the problem simply made no sense to them. To be effective in this type of setting, the teacher must learn to communicate.

Students in and graduates of our teacher education program should have pride in their profession. No occupation is more important or has more potential influence upon society than education. The technical teacher education student should recognize the importance of his profession. When a technical education major meets two other students and one proudly says that he is a physics major preparing to make great contributions to mankind, and the next boastfully states that he is an English lit major studying the contributions that Shakespear made to mankind he should not duck his head as he tells what he does. Instead he should proudly state that he is preparing for the most important job in the world--teaching. He should further remind his friends that there is a possibility that someone very close to them maybe even one of their children might someday be in his classroom. Should that happen he could have considerable influence with that individual - either good or bad. They therefore ought to be nice to him.

The technical teacher education faculty should be involved in a variety of in-service functions. Through these functions the faculty can provide valuable services to the field of technical education. Development of competence in the field of technology is an important in-service function. The teacher education faculty can provide useful services by identifying needs and arranging programs of various types to meet these needs.

Another important in-service function is to assist those people who have been recruited from business and industry to recognize the need for developing competence as an educator. One of the most serious obstacles that must be overcome is that of attitudes. So many times these people see absolutely no need to be concerned about anything but technical competence. I recently heard a report about a health occupations teacher education program. The person reporting on the project was very complimentary of the project director and his accomplishments of the past three years. When pressed to identify the most significant accomplishment, the person making the report said: "Getting the RN's to recognize the need for teacher education." Not being a nurse I laughed loudly, but deep down I had to admit that this same situation exists in other areas.

Technical teacher educators have several responsibilities in the area of research. For one, the faculty should be involved in conducting research. While I respect the right of each faculty to define its own research interests, it seems to me that most research should be in those areas that can serve to improve the teacher education programs. The faculty should seek to help technical teachers in both pre-service and in-service programs to develop positive attitudes toward research and to develop necessary skills and competencies to be intelligent consumers of research. In addition the faculty should aid in assimilating and disseminating research results. The teacher education faculty in cooperation with other agencies can be most helpful in the dissemination process.

Development and adaptation of curriculum and instructional materials is another area that should be a concern of the teacher education department. Few teachers have competence in these areas, and most of those that do have gained them through a trial and error process. This is not to say that the teacher education faculty should attempt to assume sole responsibility for curriculum development. The teacher education faculty should however establish communication links with those groups and agencies that are engaged in curriculum development. Always attempting to develop within their students those competencies required to evaluate, adopt and adapt available curriculum materials. The literature is full of examples of curriculum innovations that have failed because teachers were unwilling or unable to change.

This listing of potential contributions from teacher education is not meant to be exhaustive, simply suggestive. It should also be noted that I do not think that teacher education programs can make these contributions alone. Significant improvements in our personnel development programs will only come about as the result of a cooperative effort of all segments of the educational community. If this can be done we will have made a major contribution to our "Continuing Search for Quality."

In closing I would like to read a statement that I adapted from one that appeared in this month's issue of School Shop.

Teaching is the most dangerous profession. It deals with our most precious natural resource. It refines them into brave and wonderful people or it grossly degrades them. It results color, mold, and determines the shape of our nation and the character of our people.

If our teachers lack luster, fewer of their charges will be as bright as they might have been. If (they) are cowards, they will teach their cowardice. If (they) are not responsible citizens, they will produce political idiots. If they become the tools of any pressure group ......then we will all shrink into a nation of domesticated......cattle...... Thus, teaching must forever line in creative danger, but teachers must hold onto the protective warnings of these terrifying IF's, lest these warnings become irremovable realities. -Frank G. Jennings, in Better Schools, April, 1958, reprinted in The Michigan Teacher, February, 1971.

EFFECTIVE COUNSELING (COUNSELORS) FOR EFFECTIVE PROGRAMS

By CHESTER PACHUCKI
Public Service Institute
Loop College

Most of my remarks are really pointed toward those Educators who are not present, rather than those who are. Perhaps that's the crux of some of our problems ... we talk to our selves more often than to those who have built in aversions to Career Education. You put two Academicians together and they invariably create a problem, conversely, you put two Engineers together and they solve a problem.

We're now 15 years or so beyond NDEA and Title VIII. In 1960 we were faced with a serious problem ... excellent technology programs, modern equipment ... but no students. "Thousands of students have failed to enter Programs for which they are qualified and interested in because Society generally places low value in those Programs of nondegree positions",...so we said. Thus we all embarked on a campaign of many avenues to bolster enrollments, most of you are aware of the movement ... To Educate The Community ... To Educate The General Education Orriented Faculty... To Educate High School Counselors ... and oh yes,...To Educate Business and Industry..."Tell them all about the need for Technicians." Let me refer to an article...

"Another problem is the effective recruitment of students into Career Programs. Many of the Occupational Programs in the Colleges are enrolling 10 students a year and some sharp questions may be asked concerning effectiveness". This article also touches upon attrition. "Attrition from Occupational Programs may be a problem but certainly one not so great as some reports from Task Forces have indicated".

The only startling feature of this article is the fact that it appeared in the May, 1973 issue of The Community and Junior College Journal, ... the author ... our associate Ken Skaggs.

Back in the 60's three contiguous Junior Colleges in South Cook County, which includes Chicago, had a grand total of 33 students in their Electronics Program and a combined total of 28 students enrolled in the Mech-Tech Curriculum. Now, these same three Campuses who no longer share facilities with the High Schools have 32 students in the Electronics Program and 26 registered in Mechanical Technology.

An Economic and Fiscal Commission Review (FY 72) of a Public Junior College system makes this observation ... "Data from the Division of Vocational and Technical Education and the Board of Higher Education appear to indicate that a very large proportion of students are not completing the programs and are not being employed in the jobs related to their Career choice. Further, statewide, only 8.6% of the students in Vo-Tech Programs are ever graduated formally. (or, in a class of 35... only 3 were graduated).

We can point our finger here and say... "This is the problem" ...We canpoint our finger there and say...That's the problem". Instead, of spinning our flywheels let's make like the Mazda and look at "Effective Counseling (Counselors perhaps) For Effective Programs.

One of the educational sectors of which we in the Junior Colleges are supposed to pride ourselves most is the counseling service. This is the commitment that we claim to do better than the High School and the University. Infact, one State Junior College Board makes this mandate ... "The College shall have a well planned and organized program for counseling students by counselors who are qualified in the area".

By and large the Junior College Counselors reflect impecable credentials, highly commendable in terms of 'Regional Standards.' They use all of the "in" terms and speak the language of the truely Professional Educator. I'm not referring now to the "Boorish Engineer" or the Technician ... these guys really articulate ... Modular ... Cognitive ... Psychomotor ... Conceptual ... and many more. Furthermore, they know all about ACT, CAT, CEB, TIC, TAC, TOE,... but they are not conversant with JOB. Can this type of background be in the best interest of Technician-Type Programs when it is so far removed from the "hammer and tongues" of this sector of higher education? Would it be to our advantage to have counselors who can distinguish between such physical concepts as ... pressure and force...stress and strain...temperature and heat...reactance and capacitance... element and compound ...?

This is what the explosive "Chadwick Report", alluded to earlier, has to say on the same thesis ... "An effective Occupational Program requires proper counseling and guidance for its students. However, a large majority of the Occupational Deans indicated on our Administrative Survey that their school's Counseling Services need to be strenghtened. They indicated further, that not only were the number of Counselors inadequate, BUT ALSO THAT THEIR EXPERIENCE AND TRAINING WERE OFTEN IRRELEVANT TO THE NEEDS OF OCCUPATIONAL STUDENTS. A GREAT MANY COUNSELORS ARE UNFAMILIAR WITH THE 'WORLD OF WORK' AND ARE ORRIENTED IN OUTLOOK TOWARD THE BACCALAUREATE AREA".

This deficiency in our educational complex was further emphasized in an article that appeared, last Fall, in the Mid-America Job Guide of the Chicago Sunday Tribune. Its title, Shifting Emphasis Seen In Job Counseling". In summary, the article points out that Students in the Chicago Public High Schools are not getting adequate information concerning Careers and it keeps highlighting this problem from various sources. It fails, however, to zero in on the real weakness, except to say that "Guidance Counselors of the 70's" must move in new directions and use a variety of new procedures... whatever that may imply. As long as I brought the article along let me quote one source, at least.

Mr. Harold Rosen, Director of Research and Development for the Manpower Administration, addressing the American Personnel and Guidance Association Convention, said,... "With so little security and help available to our youth in moving from school to the world of work, perhaps Counselors should take a more active part in helping smooth the transition. If Counselors are to become a part of such a system, they will have to change their posture from 'neutral' or 'passive' sources of Occupational and Job Information".

Imagine, if you will, a potential student who saunters into the Admissions Office of a Junior College during the Summer and immediately becomes absorbed with the Electronic Brochure or one of several other fine programs. He is able to see a Counselor and begins immediately with penetrating questions involving course content, placement and so on. Just picture the drop in enthusiasm when all he gets in response is the reading of the catalog... "Well this course covers... R-L and R-C (Single Time Constants) with basic types of dividing voltages - Step, Square Wave and Sin...Sinu...Sinusoidal. The youngster squints and hopelessly asks... "What's Sinusoidal?" You soon develop a communication gap when both parties are confronted with a foreign language.

Let me relate what one alert and progressive administrator did at a Campus that offered primarily Business-Secretarial and Engineering Technology Programs in terms of a commitment to Occupational Education. He simply called in the chairmen of the Business and Technology Departments and apprised them of the problem and asked them to accept assignments as Counselors with responsibility in the respective arears of specialization. The Head of the Technology Department, whom I'll refer to as Pete, held Degrees in Mathematics and Electrical Engineering along with industrial experience in the field of Electronics. Now let me tell you how Pete would have responded to the young man interested in Electronics.

First of all Pete would relate the need for mathematics in an Engineering Technology Program and how Mathematics and Fundamental Engineering Concepts are complimentary and how they prepare a student, not only for immediate Job-Entry Skills but also for related areas in terms of future goals, as options present themselves. Pete would then take the potential student into the lab and allow him to observe an experiment, if one was in progress or he would demonstrate some modern piece of equipment, such as a Dual Beam Oscilliscope. Finially, Pete could with a few exploratory examples in Math and further constructive dialogue make a sound determination as to placement into a program that at this point most seemingly suggested success. Could anyone really challange this approach, as opposed to a battery of tests whose scores, at best, would be interpreted with Academic Rigidity.

When I entered the field of counseling, the Chicago Board of Education just started to upgrade this position from a catch all administrative assistanship to a bonafied professional Office. At that time the Supervisor of all Public School Counselors was a very intelligent and likeable man (a Physicist no less) who moved slowly and quietly but nonetheless seemed to come up with suggestions that lead to solutions of day to day problems confronting inexperienced counselors. Bill didn't have any formal counseling-guidance courses, as such, but he still gained the respect of the professional association where his qualities of leadership and his scientific approach soon brought him into National Focus. At every National Conference, however, he was forever being plauged into taking a few courses in the "Field". Well, Bill finally took two such courses during the Summer Term at a large university. Naturally the word got around that Bill followed the Associations suggestions. When asked about the upgrading affect of the six graduate hours, Bill smiled and with no intent of satire, replied,..."You know, somehow those courses failed to bring out the elements that I always felt were the most important ingredients that make for "Effective Counseling"...sincerity in terms of concern for the student". Pete had sincerity and concern...there are other Petes...it's up to you to find them.

Many counselors can write up a class schedule for a student but not all counselors are involved in the guidance process. Guidance to me means preparation for the next step...goals or objectives. Counseling on the otherhand can be looked upon as a periodic service designed to expedite the educational commitment in terms of goals or objectives. Thus Effective Counseling would initially entail guidance.

Perhaps we may be looking in the wrong direction for the staffing of Counselors with respect to Career Programs. Let's examine or explore some conditions that may suggest criteria or set guidelines leading to EFFECTIVE COUNSELING (COUNSELORS), "In our Continuing Search For Quality In Technical Education". (George Mehallis asked me to work that theme into this presentation...so you see...I'm Sincere and Concerned).

It might be time for the United States Office of Education to re-institute the Smith-Hughes concept with reference to Counselors involved in Career Programs. Certification of Counselors with appropriate reembursement giving strong consideration to relevant Industrial-Business or other On The Job experience. In otherwords, someone who has a realistic WORKING KNOWLEDGE of our Society. This to compliment a modest academic background. Those same conditions that lead to the adoption of Smith-Hughes are suggested presently. We have Counselors who are adequately prepared in terms of methods...but there seems to be a noted deficiency when it comes to association with some area of specialization in the field of Engineering or Industrial Technology. Perhaps its time to re-assess our priorities. I think that we could hold off for a short time with the purchasing of more sophisticated equipment until added interest is generated in some of the marginal programs. I've seen a lot of expensive equipment gathering rust, especially in the area of Chemical Technology. It took one State nearly 8 years to compound 5 graduates. I'm not so sure that the recent effort on the part of the National Science Foundation and the American Chemical Society, along with the five participating Junior Colleges, has changed this particular condition substantially. I know, our College is one of the five.

After three years we have only reached the fourth specialized course, last Fall we had no takers. There are other areas of continued weakness that could be shelved, temporarily, to gain funds to subsidize Counselors in each of the Five Broad Occupational Fields. In my 15 years of funded programs...I've seen a lot of money spent just to balance the fiscal year. I strongly feel that Counselors involved with Vo-Tech Programs should be selected on their technical abilities and related Career experiences rather than solely on those 16 hours of Graduate Credit.

Let me direct you to one job-classification that could prove to be a worthy addition to our Technical Education Team...Industrial Personnel Manager. Those people are available, expecially following a corporate merger. You don't have to be very imaginative to utilize these credentials, particularly with respect to counseling in terms of job-entry requirements, as it applies to the Technician, along with criteria for advancement. The same monopolistic displacement could also provide us with other Technical Supervisory Staff with years of experience and only severance pay to show for it.

Recently I talked to Harry Bigelow and throughout our discussion I kept thinking about how furtunate it might be for a Community College if this guy decided to leave Argonne at an early retirement.

Besides Business and Industry we have many highly qualified workers in various agencies of the Government who at some point are willing to give up the luxury surrounding the triplicate and hold, associated with a Bureaucracy, for the compromise offered by a Junior College System. This also applies to certain Military Personnel who retire at a productive age.

Another item to consider...introduce counseling assignments as part of a full-time teaching load for faculty involved in some area of specialization. If you're interested in student performance and other factors contributing to achievement, what better way to find out? The determination here is simple. All we have to equate is whether working with students on a day to day basis is a more meaningful guidance technique than the prognosis of a series of letter grades interpreted by someone far removed from the classroom. If you evaluate some of the more successful Career Programs you may discover that the Coordinators, Directors and / or staff are continually involved in the whole spectrum of the Educational Process, which includes counseling. The programs that I have reference to are; Nursing, Dental Assisting, Food Service Supervision, Prosthetics, Child Development, Law Enforcement...just to name a few.

At the Public Service Institute of the Loop College, every Career Program has a Coordinator. The Coordinator is a recognized specialist in a certain field and carries a full teaching assignment in his area of specialization, except for released time to coordinate the program. The major responsibility here, in terms of released time, is to counsel continually with students. This involves; screening, admission, programming, placement and where appropriate, providing information concerning transferability, such as in Law Enforcement and Child Development.

As a follow-up on part time Counselors, what would be the objections of bringing in, periodically or on a continuing basis, such key personnel as; Shop Superintendent, General Foreman, Customer Service Engineer, Chief Draftsman and so forth, to counsel with students in the evening? We've done this with guest lecturers. I can think of many ways in which to draw upon the expertise of a seasoned Shop Superintendent...not only would the efforts of Career Planning be updated but the whole Area of Technology could stand to gain by someone directly involved with the entire automated industrial process. After all, isn't this what Technical Education is all about...

HANDS ON EXPERIENCE? Further, we might want to explore the idea of Career Planning Seminars, which could be held for 3 or 4 Weeks prior to Fall Registration. At this time we could utilize consultants such as Plant Managers, Personnel Managers, Chief Chemists, and other relevant professionals along with our own Staff. We may also choose to bring in at this time certain High School Counselors for upgrading. The shortcomings in this area are sorely evident.

The thoughts expressed, thus far, seem to compliment one of the objectives referred to in the Keynote Address to this Conference in 1972..."Career Education in our Technological Society is designed to provide dimension to the education of all Americans. These are some of its most urgent objectives: It aims to acquaint all of our youth with a knowledge of all of the different kinds of work which must be done in our Complex Society and to kindle in each the desire to master some exciting job which needs to be done. One which will make him self suporting".

I don't think that you could fulfill these aims solely with a sequence of courses at the 400 level.

In keeping with the Philosophy of the Keynote Objectives, it might be appropriate to initiate a Work-Study Program during the Summer for promising young Counselors assigned to Career Programs. Instead of sending them back to graduate school for more of the same, place them strategically in Business or Industry for 8 weeks and then allow equivalent credit for this relevant and meaningful experience in terms of hours beyond the Masters, as it may apply on the salary schedule. Its conceivable that some of these young Counselors have never been beyond the confines of an educational institution.

We talk abouth the Technician as a member of the engineering team. Why not include the para-professional as a Vo-Tech Counselor on the educational team? This of course...ONLY! after he has acquired competence in his area of specialization and demonstrated professional growth. We're trying to sell Business and Industry upon the concept of supportive personnel...The Technician...why don't we try our own product...let't see if it's as good as we say it is.

I hope that nowhere in this presentation have you detected any bias, on my part, toward the Generalist or the Academician. We need General Education...after all...that's where we teach these Kids that any become President. And if you study carefully what's going on in Washington lately... that's exactly the situation. At one time the Executive Brance was called upon to deliver the State of the Union Message...Now it's a cover up for the State of Corruption. Ironically, the only semblence of creadibility in the entire fiasco stems from Technicians.

Professionalism must be considered an Attitude (Sincerity and Concern)...rather than a Status (Academic Achievement). In the Purdue Memorial Union hangs a unique Plaque, among the Plaques honoring the great Presidents of this excellent University. Everytime I have cause to stay at the Union I stop and admire The Man that is symbolized by this tribute. Mr. Pat Tracy... "The Unlettered Philosopher...Janitor...1881-1912... He Had The Respect and Affection of All Who Knew His Loyal Service and Cheerful Personality"... (Sincerity and Concern...no Doubt...).

When it comes to Philosophers, I would be remiss if I didn't acknowledge a Giant in the field of Technical Education. At this time allow me to para-phrase the Theme of the Conference, which in itself is a most fitting tribute to this veteran... Mr. Technical Education...Bill Fenninger... A Continuing Search For Quality...here again ...SINCERITY AND CONCERN.

It is my conviction, that we will have EFFECTIVE COUNSELING AND EFFECTIVE PROGRAMS only when a Counselor is qualified to answer in depth two basic questions posed by the Student who is about to enter a Career Program..."What will I be doing here (at the College) and what will I be doing there (on the Job)"?

MANAGEMENT BY OBJECTIVES - GENERAL OVERVIEW

William W. Stevenson
Assistant State Director
Head, Division of Research, Planning and Evaluation
Oklahoma State Department of Vocational
and Technical Education

It is a very definite honor to be asked to appear on your program and to speak to you on Management by Objectives. I will attempt to give you an overview of this system of management as we have modified it and used it in the Oklahoma State Department of Vocational and Technical Education.

First, let me explain to you what I mean when I say that we are using an MBO system. This means that every operating unit in the agency from the departmental level to the smallest segment has a set of measurable negotiated objectives which outline what that unit is to accomplish. Also, each individual in the Department from State Director to secretary has a series of job functions and job objectives which have been negotiated with his or her immediate supervisor. This set of job objectives spells out the results which that individual is expected to achieve during the year.

All of the area vocational-technical schools in Oklahoma and many of the comprehensive high schools are at some stage of implementation of a Management by Objectives System. We are working with one of the technical education departments in one of our junior colleges on initiating an MBO system.

It is my impression that one of the weakest phases of our system of vocational and technical education is in management or administration at both the state and local levels. In all too many instances, decisions are made with too little forethought and on an inadequate data base. Management by Objectives requires a sufficient data input and forces us to do adequate pre-planning. There is an old saying that "if you don't know where you are going, any road will get you there." I would like to revise that hyperbole to read, "if you don't know where you are going, probably no road will get you there."

I will discuss three phases of a Management by Objectives operation. The first is the setting of organizational goals and objectives, the second is the development of individual job functions and job objectives, and the third phase is the organization and individual performance review. Each of these segments is critical to the successful operation of the system.

Let's go into a little greater detail about the actual operation of the MBO System. First of all, the organization must define its purpose. From its purpose, a mission statement is developed. For example, a mission statement used by the Oklahoma State Department of Vocational and Technical Education is "To educate, train, and guide all persons who seek to develop the knowledges, skills, and behavioral characteristics that are necessary for employment." A mission statement is a prerequisite to a goal. A mission statement is usually derived from a mandate, and a mandate is set forth by law. Laws give us the source of funding used in the actual operation or carrying out of the organization's assigned responsibilities. After a mission statement has been made, the next step is to define the goals of the organization. Goals, as we use them, are defined as broad, general statements of intent, usually not quantifiable. The next step is to write objectives. Objectives are quantifiable. They are short statements of intent, and must be measurable. They should indicate what is to be accomplished and when. This all sounds easy, but let's look at the criteria for objectives. They should:

1. Specifically state what is to be accomplished and by when
2. List the result to be accomplished, and/or the activities leading to a major result. When one reviews the literature, he finds that Management by Objectives is listed as a result style of management. We are using the word activities because we found that in implementing the system, that the further down the organizational ladder one goes, the more activity oriented objectives become. However, each of these activities have results, so MBO still remains a result style of management.
3. State the expected result and activity in measurable terms.
4. Complement or support the supervisor's objectives, departmental plans, and the long range goals of the organization.
5. Be realistic in terms of available resources.
6. Be realistic, but provide challenge and growth.

7. Identify must and want objectives and weigh them accordingly. Many of us list the want objectives rather than the must objectives because it is much easier for us to do the things that we want to do, and we must be careful to avoid this. There are certain things in the organization that we must do. We should identify these as priorities and carry them out first. There is nothing wrong with want objectives, but we must have the correct order of priority in carrying them out.

At this time let's review and look at some guidance factors of what we have been talking about. The guidance factors for the organizational objectives are missions of the organization, goals, objectives, and mission of the units and their goals and objectives. Organizationally then, what does MBO allow us to do? It no longer makes us responsible for the world. You are responsible for everything that your unit does or fails to do.

Next let's look at the components of an organizational MBO System. A unit's mission statement may be something like this, (for a full-time day program) "To provide entry level occupational training and placement assistance for those who want, need, and can profit by such activities." The goal for this could be to improve placement assistance for individuals in full-time day programs. The next step then, would be to write an organizational objective at the unit level. The unit objective then would be "to implement by 1 January, 1975, a skill accomplished test for the first level of instruction." Up to this point now, we have covered what are called organizational objectives, which are one component of the total Management by Objectives system. Accomplishing this has caused the organization to plan, but yet, the individuals within the organization still do not know what they are accountable for. So the second part of this system is called work performance objectives, where individuals are responsible for certain job objectives that they must carry out to help the organization to accomplish its overall objectives.

At this time, I would like to examine the work performance objectives phase of the Management by Objectives system. First, it allows the individual to do some planning. In the planning process, we define the job functions of individuals, we derive the job objectives, we develop methods to achieve the objectives, and design the evaluation scheme. The term job functions may be a new word to many of you. I am sure that all of you are familiar with job descriptions. I challenge you to go home and read your job description and tell me exactly what you are responsible for. Usually, you find that job descriptions make you responsible for the universe, and you still don't know specifically what you were hired to do. But, on the other hand, job functions are the major segments of your work or those general areas in which you are held accountable for producing results. The ideal approach for establishing job functions is this: the administrator independently writes the major job functions of the staff member's position. The staff member independently writes his own job functions. The administrator and staff member meet, discuss the job functions, and mutually agree on the content and relative importance of each job function.

In most existing organizations, we find that the first step has been omitted; beginning with the second step, and then the negotiation (the third step) allows the administrator to have an input into the job functions of individuals. This process has worked satisfactorily in existing organizations. An example of a teacher's job functions can be given. Research has indicated that the three major job functions of a teacher are: (1) instructional, (2) administrative tasks, and (3) placement. The next step after job functions then, is to write job objectives for each of the job functions. Job objectives are short statements that define the results expected of a person in each function within a specified period of time. The following is a possible list of personal job objectives. They deal with the function of placement.

1. To develop a list of potential employers by December 15, 1973.
2. To screen the list and identify desirable employers by January 1, 1974.
3. To survey selected business by March 1, 1974, for job openings.
4. To prepare students for interviews by April 1, 1974.
5. To set up interviews for qualified students by May 1, 1974.

This system then, allows the individual to more nearly tailor the job to fit his uniqueness while fulfilling the demands of the organization. This is a process where the individual and the organization negotiate on what the job functions of the individual are and then set those objectives that relate to the job function in order for the individual to achieve the overall organizational objectives relating to his area of responsibility.

Why is this a good system? One major factor is the fact that it is a fair system because the individual has an input into setting the level of achievement and identifying what his particular function is in the organization. A question often asked is, "How do we give recognition to individuals who have difficult objectives versus those that have easy objectives?" This is handled by the following procedure. At the time the individual and the supervisor negotiate the objectives and agree upon them, the level of difficulty is determined on a scale ranging from extremely difficult, difficult, some difficulty, easy, and extremely easy. There is also a place on the form to identify the achievement of the objectives ranging from exceeded, achieved, partially met, little done, no activity. If we gave this an index from extremely difficult 5 to extremely easy 1, from exceeded 5 to no activity 1, then we can see that an individual may have an extremely difficult objective which is an index of 5, he partially met it an index of 3, which gives a total index of 15. On the other hand, an individual may have an objective of some difficulty a 3, he achieved it a 4, which would give only an index of 12. So, recognition is given to individuals who have extremely difficult objectives even though they do not fully meet those objectives. There is nothing wrong with not meeting an objective provided that we can identify why the objective was not achieved. One thing should be clearly pointed out. The benefit of a Management by Objectives system is that it allows us to improve the management of the organization. Only after we have identified why an objective could not be carried out, then and only then, can we start to take steps to improve the situation that caused the problems in achieving these objectives. Without identifying the cause of the problem, very little improvement can be made.

At this time we have completed the planning phase of the Management by Objectives system. The next step is implementation. The only two parts of implementation that I would like to spend some time with are those of delegation and motivation. Delegation is defined as the act of allowing one's staff to accomplish the assigned tasks. It includes the impartment of the responsibility to achieve job objectives, authority to make decisions required to achieve job objectives, and accountability for achieving job objectives. With proper delegation, we should open the communications channels. No longer do we have everything coming from the top. The leadership for the organizational objectives comes from the top, but the individual has an input into this and it becomes a negotiated circular system of management, rather than a dictorial system of management, and the communications up and down the line should be greater. The leadership for the objectives to be accomplished is passed from the top down to each level of management. At each level, the commitment to the actual accomplishment is reviewed and accepted by the individual and passed back up to the administration. At each level this negotiation takes place and upon completion every individual to the bottom of the organization has negotiated his commitment to the objectives to be carried out for the organization.

Another important aspect of delegation is the fact that an individual can't be accountable for something if he isn't delegated the authority to carry it out. At the time the supervisor and the employee negotiate and review the objectives, the authority for each objective should be delegated so that the individual knows what authority he or she has in carrying out the objective. This can be complete authority, a type of authority called report and act, or another type called act and report. Authority should not be confused with power. The degree of authority that we are talking about is the authority that it takes for an individual to be able to achieve the objectives that have been mutually agreed upon between the administration and the subordinate. Many people, however, feel that when authority has been delegated to them that this gives them the power to become the creator himself. This is not the kind of authority that I am talking about. A rule of thumb that should be used is that an objective should be delegated to the lowest level in the organization in which there are individuals capable of meeting that objective. Another item that might be of interest indicated in the literature is that if an individual is working fourteen to sixteen hours a day, six days a week, he isn't delegating enough.

The second area that I want to talk about in implementation is motivation. Many times we suffer from the central office syndrome. Every boss just knows that all employees are lazy and untrustworthy. Every employee just knows that the boss is dumb and does not know what is going on. I would like to define motivation as we are using it. Motivation is the activation and direction of behavior, and motivation has to be an internal thing. We don't really motivate people, we provide people motivators. One form of motivation used is the negative approach to motivation--in other words, the stick. This negative form of punishment is not very acceptable nor very effective in a democratic society. However, the one that is, is the positive approach to motivation or the reward type. This is, in effect, where we dangle something out in front of individuals or provide them with the motivators that it takes to entice them to do a good job. I would like to tie this back into Maslow's Hierarchy of Needs. At the time that I first became acquainted with Maslow's Hierarchy of Needs it didn't mean much to me because I couldn't associate it with anything. Only recently, in working with people, have I begun to see how Maslow's Heirarchy of Needs fits into the motivation pattern. Most people in today's society have their basic need for food and water satisfied. Most people are relatively secure. The third need of love and belonging is satisfied. If not, we can do this with the fraternal, social or civic organizations that we belong to.

When we look at what it takes to provide motivators for people, we are up into Maslow's self-esteem and self-actualization needs for individuals. Every individual wants to do a good job. He wants recognition, reputation, prestige, etc. On the other hand, everybody wants to be able to become everything that he is capable of becoming. So when working with people, we have to recognize at what level we need to provide the motivators and provide individual staff those motivators that it takes to motivate them. You can't talk to individuals about what a good job they have because they have two weeks vacation and sick leave, etc.; everyone offers these things today. So again, I would like to emphasize that it is very important to identify what motivators are needed to entice the staff to do a good job. If we provide individuals with the recognition or the motivators that they need, we might stop some of the ego screaming, because the individuals have had an input in the planning and they also have recognition for their accomplishments.

The last phase to be covered is the review development of the Management by Objectives system. This is probably the most important part of the MBO system and when working with people, the one that I fear will most likely cause the organization not to be able to implement the system. An example is that of the fear factor; the boss is afraid to assist and evaluate face to face, and the employee is afraid to inform the boss of his problems. Simply stated the review process involves looking at the planned accomplishments and the actual accomplishments. Performance review is defined as the evaluation of the performance of each staff member in terms of how well previously established job functions and objectives have been accomplished. There are several factors that should be considered. Have the job functions and job objectives been well defined? Has the individual had an opportunity to perform? Has the individual had the assistance that was necessary? Has there been a reasonable working relationship between the individual and his supervisor? It is important to call your attention to the last item. In conducting a performance review, we want to make sure that we evaluate the individual on the objectives that have been agreed upon mutually by the supervisor and the employee and how well he has achieved those objectives. We don't want to get into the subjective part of the evaluation where we judge people on the way they wear their hair, the association that they may have with other members in the organization, etc. As long as an individual is working in the parameter that has been defined by the organization for the employee to work, then the individual should be reviewed on the merit of how well they have performed according to the objectives that have been mutually agreed upon.

There is a monitoring component to assist with evaluation or some milestones as we go down the line. We believe that there ought to be a monthly evaluation, where at the end of each month, the individual submits a short written report stating the status of his objectives. We recommend that the report be composed somewhat like this. "This is what I did this month that I didn't have scheduled. This is what I didn't do this month that I had scheduled. This is what I plan on doing next month. These are the problems that I have encountered." Then each quarter, we recommend that there be a regularly scheduled quarterly review and that the individual know that he is going through a formal quarterly review. Then we have a yearly review to see how well we have accomplished the objectives that we set forth for this time frame. This monitoring system has been a very effective way to keep the communication channel open throughout the organization. Another aspect of this is that if some objectives need to be changed, or if we see that we are falling behind on an objective, then we have an opportunity to communicate to the next level of administration those changes that need to be made with the status of the objectives. In order to have an effective Management by Objectives system, it must be flexible. We plan around those things that we know and we recognize that there are going to be external factors that may necessitate changing some objectives. What in the beginning may have appeared to be a good objective under a time frame, may at some point in time during the operational year not be as good an objective as we first identified that it might have been and due to some external factors, the priorities to achieve an objective may change. The monitoring system gives us the mechanism that we need to be able to communicate the status of an objective.

I would like to go back and review the points that have been covered.

1. The organization defines purpose and writes mission statement. Then it writes its goals and objectives.
2. The internal units derive their mission statements and write their goals and objectives.
3. The individual derives job functions and objectives with negotiation with the unit head and

4. We have the monitoring system that is used to check on the status of the objectives.

Another way that we might view this is with a five-step system.

1. organization's mission
2. the organization's goals and objectives
3. the unit's missions, goals, and objectives,
4. the individual job functions and objectives, and
5. the monitoring system.

Everything about the Management by Objectives system isn't peaches and cream. I would like to present some of the major difficulties. First there is a lack of understanding by the supervisors or staff members of what they are supposed to do. After a general orientation, we usually find this to be true. A second difficulty is the failure to follow up and periodically evaluate accomplishments of goals or plans. As stated earlier, this step is the one that I fear most in causing failure of a Management by Objectives system. If we don't follow up and look at the accomplishments, then about the only good that we can see from a Management by Objectives system is the fringe benefits of planning, but we still may not have accountability. The third major difficulty is that the procedure takes too much time and there is not enough time available. Well, the system does take a lot of time, but one of the things that we have been guilty of in an educational environment is not putting enough time into planning. We always are going from crisis to deadlines. If we take the appropriate amount of time that it would take to plan and to set up things, then the organization would be operating much smoother. So, looking at it from the standpoint of planning, it probably does not take too much time. The fourth, is the lack of cooperation by supervisors and resistance to change. I would like to raise a question. Do you resist change? Well most of you would indicate that you do resist change, and I propose that you do not resist change, but you resist being changed, because change is probably the only thing that we have constant in today's society.

Why do you resist change? One of the reasons relates to one of Maslow's Heirarchy of Needs. When you feel secure in doing things that you know how to do well, you are afraid of change. Something new scares you a little bit so you resist it. Another question. How is anything ever made better? By changing it. Nothing that I know of has ever been made better unless it was changed. Now, I don't imply change for the sake of change; but if, after doing planning, we see that a change needs to be made, then we are not going to be able to make anything better unless we do some changing. Again, not change for the sake of change. The fifth and last difficulty is just plain old lack of interest or apathy. In any organization that you work with, one or two percent of your employees will be apathetic towards the Management by Objectives system. There will be no interest expressed, so you have to recognize this when dealing with people inside the organization.

In summary, what will MBO do for you? (1) It forces you to look realistically at your job. (2) It provides feedback on how well you are doing your job. (3) It establishes priority for your efforts. (4) It allows you to accept responsibility. (5) It may attach dollars to activities. In summary, the organization has a self-directed and defendable function evaluated on accomplishments.

I would like to close my formal presentation with this quote: "We could say everything is going according to plan if we had a plan."

JOINT PARTICIPATION FOR PROGRESSIVE CHANGE THROUGH MANAGEMENT BY OBJECTIVES

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Vice President
Texas State Technical Institute

As universities expanded services to vastly increased enrollments following World War II and incorporated new activities within the scope of the services provided, the seeds of disenchantment with higher education were planted. Attention was diverted from instruction. The classical classroom professor became yesterday's commodity, replaced by the research professor. There were other shifts in priorities and emphasis. Translocation of function, authority, and structure became enescapable and effective management directed toward providing relevant and high quality education was subsumed under a thrust to achieve status.

Low quality instruction, coupled with many political, social, and cultural events combined to stimulate student rebellion on the campus. Students, demanding reform, thrust themselves into the domain of curriculum and instruction which had previously been a prerogative vested solely with the faculty. This was accompanied with a "do your own thing" or "be your own man" cultism which conflicted with normal regulatory process.

As students invaded the faculty's domain the faculty in turn sought in invade the administrative domain and demanded a voice in management. While the rationale for such action was often couched in esoteric and scholarly phrases, when examined for essence, it was mostly an effort to achieve job security and equitable pay along with a license to teach without restrictive regulations. Thus, faculty organizations were born. The resulting trend was a reduction in management effectiveness from mediocre to poor and a diminution of confidence by the general public, along with elected and appointed state officials in the ability of institutions of higher education to manage their business. Out of concern and commitment to best utilize all resources in order to serve the public, higher education is now being more deeply drawn into a growing philosophy of government to "manage" all state affairs like a giant industry. Contemporary interest is increasing about the resulting impact of regulatory influences of state agencies such as Boards of Higher Education or Coordinating Boards, along with legal constraints being engendered by courtroom decisions. This is a topic of discussion and exploration by professional educators, especially those prone to cluster in professional organizations which seek to establish the primacy of faculty in institutional governance.

It appears that the focus of decision making is shifting from the campus to state-level managerial authority centers, indeed, even shifting to federal levels. Faculty organization must also then shift in form and strategy if they are to effectively participate or influence the decision making which is taking place away from the campus at the state's capitol. Consequently, faculty organization takes other forms such as unionism of psuedo unionism through professional associations empowered to serve as a bargaining agent. Such actions are inherently based upon vested interest representation and the student's need are ignored, except as they are indirectly (perhaps conveniently) involved through establishing the rights,policies, and economic factors in a negotiated contract. A worker-management adversary relationship is established on campus which gives rise to a concern that the idyllic academic atmosphere and environment for exploration and adventures into learning will be rendered unattainable by the very process employed to assure its existence.

These actions and reactions seem to escalate with little visible evidence of real improvement. Students invaded the area of curriculum and instruction; faculty organized and invaded the administrative domain; decision making authority moved from the campus to state and federal government levels so the faculty members organized on state or national basis. Next, it would appear, student consumer organization will escalate to keep pace. The student union may well become more than a gathering place on campus. Is it too late to return management and authority to the campus and replace collective bargaining with collective management? Can control be returned from the state house to the campus if responsible accountable management can be demonstrated? Hopefully it can.

Because of the specific and relevant nature of technical education, an unusual opportunity is presented for technical education to develop collective management system prototypes which incorporate modern concepts of management science. Because of the natural relevancy of technical education, it is quite suitable to specificity of objectives and, thus, amenable to implementation of accountability being demanded by the public. Evaluation and accountability can be achieved as by-products of implementing management by objectives strategy for they are essential ingredients.

Many administrators of educational institutions are deligently seeking to utilize the strategy of management by objectives. Properly implemented, it may well result in desired improvements in the effectiveness of managing an educational enterprise. Improperly implemented, it may be a disaster.

Management science extols the virtue of participatory management. On campus, it appears not only to be desirable, but necessary to take this approach because one of the most common reasons for failure to management by objectives can be traced to a pervasive tendency to erase or minimize the human element in the organization and management. In an educational environment where the emphasis is on human interaction, this is most undesirable.

To be successful on a college campus, the implementation of management by objectives must emphasize mutual establishment of objectives. The mutuality must include inter-departmental, as well as faculty-administration interaction. Management by objectives bring into focus those activities which should be undertaken to achieve desired end results, but it can lead to "gun barrel vision." People become intently fixed on achieving specified objectives because that is the basis of performance evaluation. Spontaneously arising situations which provide unplanned for teaching opportunities may be wasted. It must be recognized that more than any other enterprise, an educational organization is a social system requiring unlimited people-to-people interactions, as well as people-to-organization interactions. When modification of human behavior is the goal, emotion plays as great a role as logic and the degree to which the educational climate can be controlled is far more limited than that of other enterprises.

Management styles exerts considerable influence on the likelihood of success in implementing management by objectives programs. In an autocratic setting, objectives are issued by the boss, while in a democratic setting, everyone participates in establishing objectives. Obviously the latter system is fraught with many more difficulties than the former, but there are offsetting benefits to be derived from the participative or democratic approach.

Management science extols the virtues of participatory management. Faculty seek participation in management. Students want relevant education. Therefore, a system of technical education designed for achieving specified relevant objectives, utilizing management by objectives strategy with provisions for faculty perticipation in management should appeal to students, faculty, public, and reduce administrative burdens. To accomplish this, a concept or model of a technical education system must be articulated with the management organizational structure, and complimented with a faculty organization. An educational system model is needed to provide direction to the design of an accompanying organizational structure.

There are different models of an educational system. One which meets modern criteria for specificity, relevancy, and is designed to employ principles of management by objectives is shown in Figure 1.

AN INSTRUCTIONAL SYSTEM MODEL

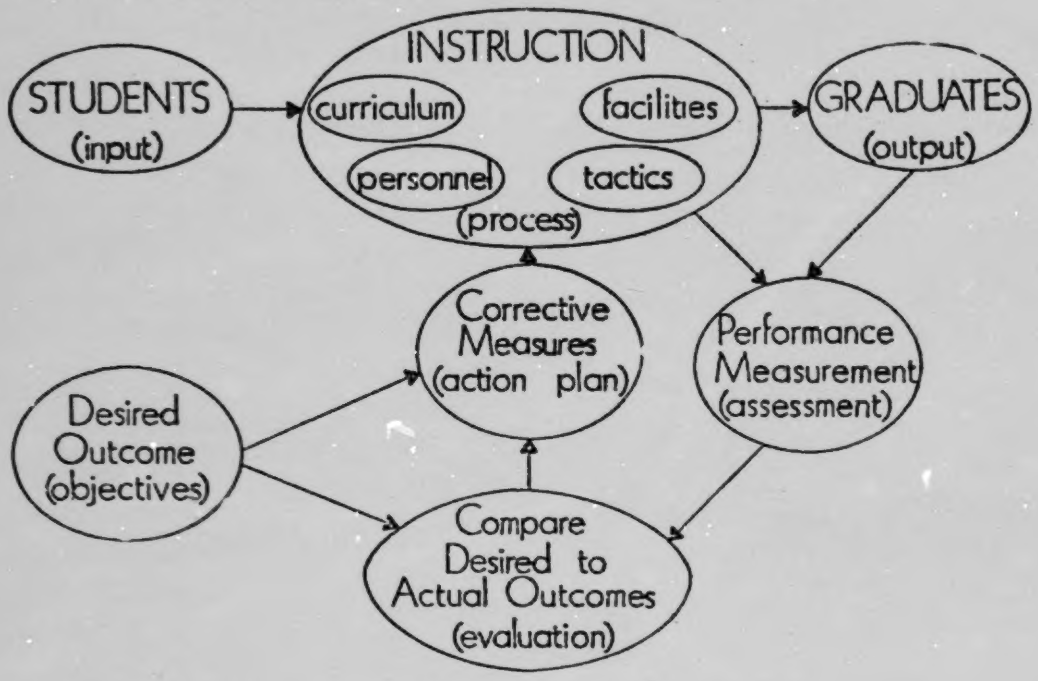
STUDENTS
(input)
INSTRUCTION
curriculum
facilities
personnel
tactics
(process)
GRADUATES
(output)
Corrective
Measures
(action plan)
Performance
Measurement
(assessment)
Desired
Outcome
(objectives)
Compare
Desired to
Actual Outcomes
(evaluation)

FIGURE 1

The model conceives the educational system as a process having students at the input. The students are subjected to learning experiences and graduates are the output. Certain measures of performance are made on the process and output which are compared to prestated objectives and, by this means, an evaluation of performance is made. Based upon the evaluation outcome, changes are made in the process in order to bring the system performance and output into alignment with pre-stated objectives. Evaluation may also indicate the need to alter objectives.

In this model the actual education process consists of four identified elements: 1) personnel; 2) curriculum; 3) facilities; and 4) instructional tactics. Obviously, it is assumed that if these four elements are properly available, effective instruction will take place and suitable graduates will be produced. Performance measures must be taken on each of these elements and compared to respective objectives. Through this process decisions are reached about expenditure of resources and changes planned to made needed improvements.

The organization structure should be specifically designed to maximally implement the instructional system model. The traditional table of organization for educational institutions is patterned after industrial organizations and based on comcepts of span of control and a pyramiding structure. Thus, faculty report to department heads who report to division heads who report to deans who report to the presidents. Decision making authority is rationed to hierarchical layers and is primarily centered in the upper one or two levels of the pyramid. Work and division of responsibility branches at each point within the structure. A division head usually handles all administrative responsibilities of the departments within a division. A typical chart illustrating this concept is shown in Figure 2.

The pyramid structure leads to vertical compartmentalization and creates barriers to horizontal interaction and communications. Further, each layer within the structure becomes points of diffusion of effort. If an eighty percent efficiency factor is assumed at each point in the vertical structure, i.e., the person at each point understands, agrees, correctly communicates and supports an order with an eighty percent performance factor; by the time the order is relayed through four organizational points ,the overall effectiveness factor is reduced to forty percent. The end result often bears little resemblance to what was expected at the point of origination of the order.

Tall vertical organizational structures also lead to high inertia in response, bureaucracy, and create opposition to change. A flat strucutre will encourage broader horizontal interaction, group participation, and reduce opposition to change.

An alternative to the system illustrated in Figure 2, is to partition the management responsibilities of all departments by function and replace division heads with management personnel having designated functional responsibilities for all departments.

TYPICAL ORGANIZATION STRUCTURE

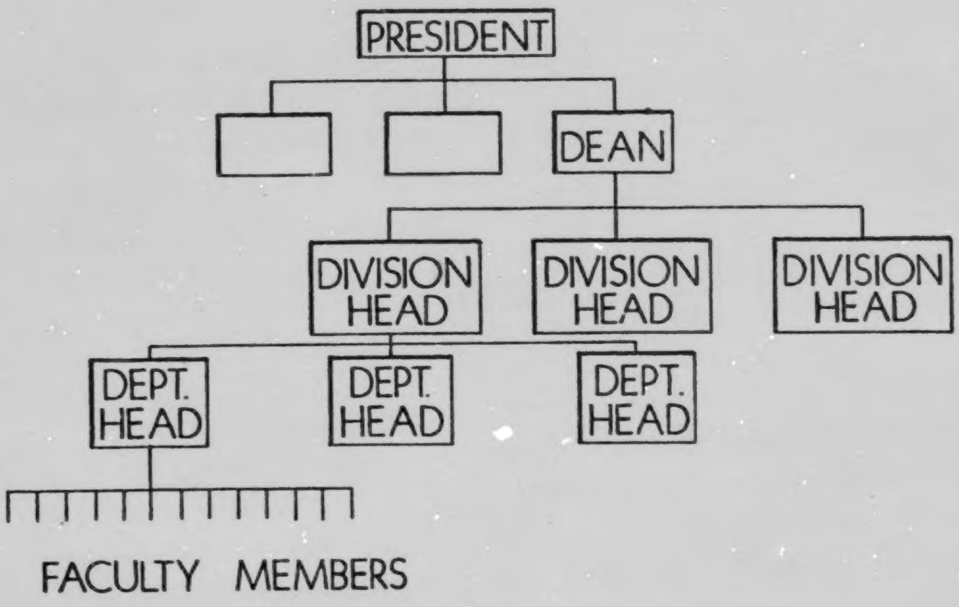

FIGURE 2

In keeping with the previous model for an instructional system, the functions of instruction have been identified as personnel, curriculum, facilities, and instructional tactics. An orgnaizational chart based upon this partition of responsibilities would appear as shown in Figure 3.

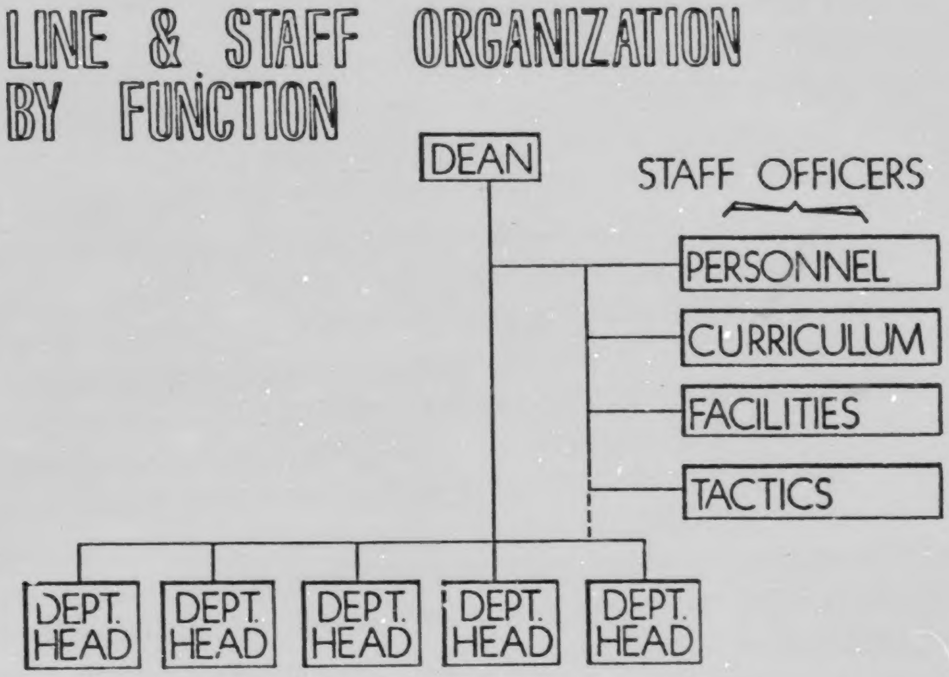

FIGURE 3

Figure 3

This design has the advantages usually accruing to a system utilizing both line and staff positions, in that it allows for specialized expertise in the staff position. A disadvantage is evident in that care must be taken in organizing the communications system because of the large span of control. Considerable authority and responsibility is vested at the lower levels in such an organization.

Having established the model and the organization, attention is directed toward incorporating a compatible faculty organization which meets the desires of faculty to participate in management and accrues the potential benefits from participatory management.

Participatory management holds forth the glittering promise of stimulating employees to top performance, motivating to excel, reduce employee dissatisfaction, reduce turn over, and generally improve the management malaise. There is some room for doubt about the extent to which these benefits are realizable, yet, it is reasonable to assume the concept is creditable. The principal benefit which may well rank far above all others in importance is reducing resistance to change. Planned programs of progressive change are crucial life substances for technical education which must keep abreast of contemporary changes in technology. A dean once remarked, "If you are teaching the same materials you taught last year, you are at least one year out of date." How true!

Lack of relevancy and the inability to make changes contributed in a major way to the rupture of bonds between student, faculty, and administration. Students are consumers and are entitled to receive what they seek and for which they and the public pay. A properly constituted faculty organization can not only overcome the resistance to change, but become a viable force which insists upon and stimulates change. To accomplish this, management roles must be assigned to the organization and responsibilities, objectives, and performance evaluations made upon the contribution of the faculty organization just as they are made upon management personnel. The purpose of the faculty organization is to join the management team to improve effectiveness, not to wrest authority away from the administrative staff. Therein lies a vast difference with many faculty organization.

A faculty organization compatible with the educational system model and organization presented above could be designed as follows. The faculty organization would consist of elected representatives to seats on one of four councils. These councils are identical to those defined elements of instruction and management function, namely curriculum, facilties, personnel, and instructional tactics.

The purpose of each council is to work with the respective manager to establish objectives, performance measurement systems, evaluations, and formulate corrective actions in the assigned area of responsibility. Thus, the council members are a part of the management staff to assure the effective implementation of management by objectives strategy. Through this system of elected representation on the management team, faculty have a means of input into establishing procedures, ways and means, goals, and instructional processes, thus, have a measure of control on the future. Figure 4 illustrates the anticipation interaction of the councils with the regular administrative staff.

One of the major deficiencies of management by objectives is that there is a strong tendency for it to devolve into a meaningless exercise in paper work. Properly carried forth, a great deal of attention is required to measure progress toward meeting objectives. Challenging and realistic objectives must be established by involving personnel having responsibility for goal achievement. A faculty organization established along the pattern suggested provides a flow of "new faces" and, thus, new energy in the management circle which should contribute materially to maintaining performance and continued effective implementation of management by objectives.

Most importantly the total approach to management and organization briefly described, holds forth the promise of joint participation for effective management and to maintain relevancy and instructional excellence through assuring continuous progressive change.

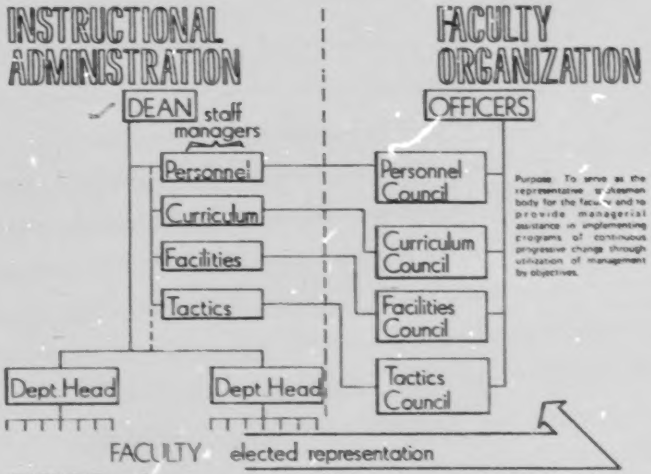
INSTRUCTIONAL ADMINISTRATION
FACULTY ORGANIZATION
DEAN
staff managers
OFFICERS
Personnel
Curriculum
Facilities
Tactics
Personnel Council
Curriculum Council
Facilities Council
Tactics Council
Purpose: To serve as the representative spokesman body for the faculty and to provide managerial assistance in implementing programs of continuous progressive change through utilization of management by objectives.
Dept Head
Dept Head
FACULTY
elected representation

FIGURE 4

"NOW THAT THE FEAR IS OVER"

Delbert Morrison - Director - Duncan Area Vo-Tech

Management by objectives is by no means new. As s matter of fact, my father introduced me to this system when I was very young. I was next to the youngest of six boys and my father had always instructed us not to ask for the last piece of chicken in the platter. One summer windy evening while enjoying Mom's good fried chicken the kerosene lamp was blown out by a sudden burst of wind. My father reached for the last drumstick and suffered six fork wounds in his right hand. I must admit his objective was sound; but the management procedure needed more advanced planning.

My appreciation has been extended to Dr. Bill Stevenson and Dr. Charles Hopkins from the State Department of Vocational-Technical Education in Stillwater, Oklahoma for their knowledgable assistance in implementing our MBO System.

I analyzed the MBO System as a means of finding solutions to problems and someone has said that solutions to problems are like keys in locks; they don't work it they don't fit. And if solutions aren't the right ones, the problem dosen't get solved. Problems are caused by differences between what people do and what someone wants them to do. Unfortunately Educational Institutions are not without problems in relation to how problems are caused especially when we consider the different groups of people involved. Groups meaning: students, patrons, teaching staff, administrative staff, and the governing board. Each group in essence is different in what they want to do and what someone wants them to do. No longer can we apply the "Golden Rule" to the educational process. You are aware, no doubt of the meaning of this rule: "He who hath the gold maketh the rule." And too often, the "identified problems" often isn't the problem at all. It is often a symptom of the problem and until a problem is understood and definitely identified proposing the solution is more times than often a shot in the dark.

The MBO System does in essence serves as an aid in recognition of problems and provides direction in setting up goals and objectives whereby workable solutions can be made in solving identified problems.

With the inception of any new and different technique, apprehension is sure to be present amoung the staff members. The announcement of MBO was no exception. Reaction came in the form of "Now we're going to be held accountable for placement of students" - "If I had all top quality students I could do a better job of placement", and "This is the beginning of merit pay for Instructors." The most common stated objection heard was "Someone in the State Office is working on their Doctor's degree and dreamed up this busy work."

In August of 1970 prior to the beginning of school and during the in-service period, the instructional staff was asked to meet for a three hour session daily to formulate their individual goals and objectives. In order to minimize time and simplify direction a copy of the institutions stated objectives was presented as developed by the committee. Also, Dr. Chuck Hopkins was utilized as a resource person the first day of the in-service training period. Working together, the end of the first 3 hour session, found much of the confusion disipating and some insight as to the end result developing. Two weeks, 30 hours, 12 dozen gripes later, fifteen instructors had developed their own goals and objectives by departments with some revisions needed.

The success of a MBO System in a Vocational-Technical School is dependent upon several factors:

1. Recognition of Need - The need is determined by the Administrative Head. Local initiative must be present for the system to be sold and implemented among the instructional staff.

2. Simplicity - The institutions needs should be assessed in priortized form, objectives stated in relation to the needs formulated and stated in measurable terms.

3. Review, updating, and revision - Once the system is initiated into the educational system, a constant review must be made between the Administrative Head and the individual instructor. This periodic review permits the addition of new goals, deletion of un-realistic goals and a modification of present goals.

The advantages of this system were assessed after one year. A few are worthy of mentioning here.

1. Students become the main benefactors of realistic objectives.

2. An assessment is readily available during the conferences held between the Administrators and Instructors.

3. By consultations and conferences new goals may be outlined and old goals modified where needed.

4. Well prepared and meaningful goals and objectives provide direction for activities leading to the prime mission of the institution.

"Now that the fear is over," the end result of the dedicated work brings satisfaction and a sense of accomplishment to the instructional staff; but of most importance, a key to fit the lock.

ACHIEVING QUALITY THROUGH SUPERVISED WORK EXPERIENCES

Allied Health

W. D. Workman III

Greenville Technical Education Center

To begin with, perhaps I need to answer a question raised by one of my erstwhile friends at Greenville TEC when he learned I was to talk with you this afternoon: "Why me?" On reflection, it was a legitimate question, and an answer may be of use to you.

I'm in the role of a reporter, describing to you some of the activities relating to getting high quality into allied helth training programs through supervised work experience. These are activities that we have gone through at Greenville TEC in recent years, or that we have observed in visiting other schools engaged in allied health training. Much of this presentation will fall in the category of "do as I say, not as I do." because we have learned through mistakes as well as from the things we have done right.

Greenville TEC has 15 programs in the allied health field, with a staff of some 50 people and enrollment of nearly 600 students. We have successfully undergone 9 separate accreditation visits covering the 10 programs liable for such accreditation. We have a success rate of better than 90 per cent on national and state licensure and registration exams; in some programs, the rate is 100 per cent. We are using more than 50 different clinical sites in our training programs, ranging from individual physician and dentist offices to major hospital complexes of more than 700 beds, in over 15 different cities and towns.

So you can see that we have had ample opportunity to gain experience in setting up clinical training, both in how to as well as how not to. I am delighted to share some of the results of those experiences with you.

Several definitions are in order here at the first. For this discussion, the term "Allied Health" will be used to refer to careers coverning all those workers in the fields of patient care, public health, and health research who engage in activities that support, complement, or supplement the professional functions of physicians and dentists. The associate degree nurse, or the technical nurse, will also be included, in that clinical training for that category of helath worker is required and appropriate for this discussion. We can further refine the definition by including only those careers that require less than a baccalaureate degree in order to fully qualified for the particular field. Such careers include those for which preparation at the level of the associate degree, the one-year diploma, and the certificate for less than a year's training are required. We are not including those careers which require only on-the-job orientation in order for persons to become fully prepared.

Another definition concerns "Supervised work experience." A more usual term is "Clinical experience," but you have probably heard other terms such as "practical work", "practicum", "clinical lab time" and others. I suppose that the most widely used is "clinical experience." Clinical experience for allied health careers typically has two elements: 1. It takes place away from the educational setting, in an actual place where health care is being delivered; 2. Students undergoing this portion of training receive academic credit and no pay.

Now with that out of the way, here is the key statement to the whole speech: Because of the nature of allied health careers, there is little opportunity for learning from mistakes. The meshing of academic preparation and job performance must take place during training. Thus, quality in clinical experience is essential.

What, then, are the ingredients of a program that has adequate amounts of quality built into the clinical experience portion of the training? This list we will go through may not be all-inclusive, but it is a check list that has served us well. These items are presented in no particular ranking or priority. They are:

--Active, involved advisory committees
--Curriculum design for clinical reinforcement
--Well-experienced, well-trained and competent clinical supervisors
--Clearly defined clinical experience training objectives, stated in behavioral terms.
--Clearly understood and well administered grading mechanisms for clinical experiences
--Good clinical site selection
--Contracts with clinical sites
--Choice of programs based on demonstrated need and employment potential
--Didactic instructors who themselves have clinical experience.

A few comments on each of these topics is appropriate. I know that some of this material will be very basic to you; yet it needs to be said.

Active, involved advisory committees are essential to just about every technical education program, and allied health programs are no exception. Regarding the clinical training, your advisory committee members will lead the way into the clinical sites and provide major assistance in dealing with the administration of the various agencies to be used for clinical training. Selection of the members of the committees must be done with care, as with your other advisory committees; there needs to be representation from the administrative ranks of the agencies you are seeking to serve, as well as representatives of the career itself. As an aside, we always seek to have representatives of the public schools on our advisory committees, and they are most helpful in setting up recruiting efforts for the programs, as well as in helping see to it that courses designed to prepare high school students for the various careers are available where possible in the public schools.

In designing the curriculum for the program, the clinical portion must be developed along with the academic side. It makes little sense to present material to the student that for six months or a year he will not be called upon to know in the clinical setting. Academic work and clinical training need to be closely interwoven, in weekly chunks if possible. We have had success with some curricula that have students in the clinical setting two or three days a week and in class the other days. Alternate half-days in class and half-days in clinic. This is effective, of course, only after several quarters have passed, during which the student is given the very basics of his training. Generally, the further advanced a student is in the program, the greater amount of time he spends in the clinical setting. In several programs, this becomes 40 hours a week for a quarter or two, either at the end of the full program, or in the middle summer quarter. In our nursing program, class size is limited primarily by the ability of the clinical sites to handle certain numbers of students. We are starting classes in that program every other quarter rather than starting one large class in manageable groups at the beginning of the school year; the students then rotate through the various clinical areas.

Objectives for clinical learning experiences must be developed as throughly as for the didactic portion, if not more so. These objectives must be in writing, stated in behavioral terms, and understood by students and clinical supervisors alike. Effective objectives that are followed will ease the situation frequently encountered in which students are misused as employees of the clinical site rather than for learning opportunities.

As critical to the success of clinical training as any other aspect is the quality of the clinical supervisors themselves. It goes without saying that those doing the supervision must be qualified to do so. When clinical supervisors are members of the faculty of the training institution, it is easier to have qualified control. Yet, the costs of allied health training force institutions to make use of the hospital or other agency personnel for clinical supervision whenever possible. To improve such supervisory key people who are to serve as clinical supervisors should be on your advisory committee; they should help develop the objectives for the clinical training. The educational institution should provide training sessions for all those people who will be serving as clinical supervisors.

The actual arrangements between the school and the supervisors may take many forms. Ideally, they work for the school full-time and are thus subject to your direct control. Realistically, however, costs will likely prevent that situation from being common. Supervisors may be full-time employees of the clinical institution, and work for the school on a part-time basis; or they may be full-time clinical institution employees who have been assigned the duties of clinical supervision for the program. Whatever the arrangement, and it likely will vary from program to program, it must be closely monitored and carefully screened to make sure that it is meeting the objectives. It is very easy for a program director to get so busy on campus that not enough attention is paid to the clinical area, particularly when some sites may be out of town. The administrators under whose jurisdiction the allied health programs fall should spend a significant part of their time working with the administration of the clinical sites and checking with program heads to make sure that "out-of-sight, out-of-mind" does not apply to clinical training.

In the training sessions with the clinical supervisors, much attention must be paid to the grading mechanism to be used. It must be simple, it must be easy, it must provide for reasonably accurate assessment of the student's performance in objective terms. Grading mechanisms that call for paragraphs of narrative comments will not be well received by clinical supervisors who already have enough to do without getting bogged down in more paper work. Check lists with "go-no go" types of evaluation can be an effective way to pull out the information needed. It will also be well worth the while of the program head to provide for some sort of input from students regarding what they perceive happening to them in the various clinical sites. They will know when they are getting good experiences at a clinical site. And there will be times when personalities will influence evaluations, particularly when the evaluator has not been trained to look beyond such conflicts in assessing the performance of the student.

"Clear" and "easily measureable" are the bywords for clinical evaluations, even when your own people are doing it. Evaluations should also take place relatively often. A one-shot deal at the end of the quarter or semester will seldom be an effective evaluation.

Selection of the clinical site itself is critical. Many allied health programs, particularly those that come under the accrediting purview of the American Medical Association or other professional agencies, have specific criteria that clinical sites must meet. Such items maybe specified as the size of the facility, in terms of patients, procedures, etc...; the accreditation of the facility; qualifications of the staff of the facilty; presence of certain equipment of different types; and space to be allocated to the students (lockers, study rooms, etc...).

Also, quite important is the attitude of the facility administrators and staff people of the various departments involved with the training program. It is not uncommon for cooperation from the administration to be of the highest order, whereas nothing but problems come from dealings with the departmental staff. Thus great care must be given to establishing a rapport with the departmental staff, because it is there that the ultimate success or failure of your clinical experience will lie. There will likely be employees in the clinical facility who will view as a threat the establishment of a new allied health program in their field, and sometimes they are right. Others will resent the additional work that supervising students entails. And in many cases the situation involves the hospital's closing down its own program and turning it, the training, over to the educational institution. We had an incident in which departmental people lost a source of income when the hospital closed its program, and shortly thereafter we waltzed back over there asking them to provide clinical supervision for free.

The rapport between the school faculty and the clinical site staff will be handicapped unless the faculty includes people who themselves have had experience in clinical work. Instructors who lack first-hand knowledge of the problems and situations within clinical facilities will in many cases have trouble relating to the staff members, and it will be difficult for them to cause the strong tie-in between the didactic and clinical portion of the program.

In selling the clinical institutions and staff on the idea of supporting the educational program through the provision of clinical supervision, we have been successful by pointing out the benefits that accrue to the facility in better trained and more numerous graduates, in allowing the hospital with the "pick of the litter" at graduation time, and in some cases providing faculty status, or other benefits, to the supervisors.

Attempts by educational institutions to offer programs for which there is not a true and demonstrated need for the graduates will generally meet with less cooperation from clinical sites than otherwise; yet if the educational instituation is trying to set up a program for which a need does exist, it has been our experience that the facilities will do all in their power to help.

Let's assume that cooperation with clinical sites has been forthcoming and everything looks good for the program. Don't fail to put down in writing all understanding between the educational institution and the clinical site, and get the statement signed by both parties. These clinical agreements, clinical contracts, or letters of understanding will be invaluable, and are actually required for accredition in many cases. The degree of complexity of these agreements will depend upon the two institutions involved. Our general practice has been to enter into fairly comprehensive agreements with major clinical sites, and to supplement these agreements with letters of understanding between the program head and the corresponding member of the hospital staff: physical therapist to physical therapist, radiologic technician to radiologic technician, etc... For small agencies or private offices, an exchange of relatively brief letters may suffice.

Included in the agreements should be administrative points such as insurance, emergency room care, cafeteria and parking priviledges, uniform and dress codes, staff and faculty relationships; and a clear delineation of the areas of responsibility for each party. Basically, the clinical institution is ultimately responsible for patient care, and the educational institution is responsible for the student. Also, a statement of the conditions under which the contract can be dissolved needs to be present, and should give the educational institution adequate time to provide for its students should a particular site withdraw; 90 days, or at the end of the next quarter, might be appropriate. In addition the numbers of students that can be accepted by the clinical facility at any one time and other details should be part of the agreements either between the institutions or the respective departments of the institutions.

Let me re-emphasixe a point mentioned earlier. The key to the success of allied health training programs depends in large measure in offering only those programs for which there are demonstrated needs and true employment potential. Allied health training programs are expensive to start and expensive to maintain, and should be begun and continued only for those careers for which jobs are available. If not, problems are likely to arise with clinical sites, with funding sources, and with staff and student recruiting.

This does not mean that the educational institution cannot take the lead in seeing to it that employment opportunities do exist. There is no better selling point than a well-motivated, well-prepared student working in a clinical site to cause that program to succeed. Conversely, if clinical sites are sent poorly prepared students who fail to exhibit interest and a willingness to learn, the program may as well be closed down.

In conclusion, let me state another obvious point. The quality of health care ultimately delivered is dependent upon the competence of those providing the care; and the competence of health care personnel is, in turn, largely determined by the quality of educational preparation for health service roles. Well-thought out and productive clinical experiences for students are an indispensable part of high quality allied health training programs.

Achieving Quality through Supervised Work Experience

Charles J. Fisher, Director
Southeast Florida Institute of Criminal Justice
Miami-Dade Community College

Good afternoon ladies and gentlemen. It is a pleasure to speak to you on behal of the Southeast Florida Institute of Criminal Justice, Miami-Dade Community College. The theme for our program is "Technical Education - A Continuing Search for Quality." Keeping this in mind I will confine my address to the theme.

Before one may adequately discuss supervision in the criminal justice system, an understanding as to what the criminal justice system comprises must first be discussed.

The criminal justice system is composed of many agencies and numerous people. I would like to give you a description of the criminal process and my remarks are intended only to provide a broad overview of that process with particular emphasis on the number of people involved at each stage. When thinking of criminal justice I believe perhaps the one subsystem that appears to be most on one's mind is the law enforcement agency because it is indeed the largest. There are approximately 40,000 separate agencies responsible for enforcing Federal, State and local laws. Only fifty of these agencies are on the Federal level. They account for the investigation of less than ten percent of the estimated 350,000 felony prosecutions each year. The primary burden lies on the 200 State and 39,750 local agencies. The size and organizational structure of the local agencies varies considerably.

In the Greater Miami area, for example, there is one County Department of Public Safety and twenty six local police departments. The size of the departments varies from the 1,100 Dade County Department of Public Safety force to several small town departments with five or less full-time officers. The educational requirements and salary structures of the various departments also vary considerably. Each department is responsible to its local government unit.

Another aspect of the criminal justice system is the involving the judiciary. This involves determination, sentencing, defense and prosecution. The prosecutors are usually elected officials having a county-wide responsibility for prosecuting criminal cases. In many urban areas the County prosecutor may be responsible primarily for felony cases, with most misdemeanors and all ordinance violations prosecuted by the City Attorney. The great majority of the country's 2,700 prosecutors serve in small offices with at most one or two assistants. Often both the prosecutor and his assistant are part-time officials. In Dade County, Florida, the prosecutors staff is twenty-seven, the size of a medium law firm. In a few states, the State Attorney General has responsibility for all criminal prosecutors. In most, however, he has more limited authority over local prosecutors although the authority may be sufficient to achieve a fair degree of coordination. So far only a small number of Attorney Generals have moved in that direction.

Federal prosecutions are the responsibility of the ninety-three United States Attorneys who are Presidential appointees. The United States Attorneys are subject to the authority of the Attorney General who establishes major prosecution authority for the country. The operations of the United States Attorneys are supplimented by the Criminal Division of the Department of Justice which coordinates activities and furnishes research and manpower assistance.

I wonder how many of us realize that only about two percent of this 200,000 lawyers engaged in private practice today accept criminal cases "more than ocasionally." Many more lawyers, however, may receive an ocassional court appointment to represent an indigent defendant. And, whether we realize it or not, approximately six percent of all defendants are indigent and most communities use an assigned counsel system.

In my home county of Dade, a Public Defender's office has been established as in most major metropolitan areas. And here is something I think most taxpayers should be aware of. It has been estimated that State payments for felony representation for indigent persons reaches approximately seventeen million dollars per year and are clearly on the rise.

Most of us are aware of the Court. Most of us are aware of the duties and responsibilities of the Court. But, how many of us fully understand the process in which it functions. The Courts of the First Instance, variously termed Magistrate Courts, Justice of the Peace Courts, Municipal Courts, etc..., have jurisdiction in all minor misdemeanor cases. In addition they bear a major responsibility in processing felony cases. Ordinarily felony defendants make their first appearance before these Courts which set bail and inform the defendants of the charges against them. Magistrate Courts also hold preliminary examinations in felony cases. In the Federal Courts these functions are handled by United States Magistrates. Felony cases are tried by Courts of General Jurisdiction frequently called District Courts, Superior Courts, or Circuit Courts. These courts usually have a county-wide jurisdiction encompassing civil as well as criminal cases. Frequently they also serve as the first level of appeal in the misdemeanor cases tried in the Magistrate Courts. Judges in Courts of General Jurisdiction are lawyers and are elected in more than half the states which includes the State of Florida. The Courts of General Jurisdiction in the Federal system are the ninety-three Federal District Courts.

Today we are hearing more and more about rehabilitation and the need to develop a good parole and probation system. In the State of Florida every Court of General Jurisdiction has the assistance of a probation officer. In many states, however, probation officers serve only the courts in the metropolitan area . The probation staff conducts pre-sentence investigations to assist trial courts in arriving at appropriate sentences. It also supervises convicted felons who are placed on probation. At present this includes over 250,000 adult felons. The correctional institutions include prisons, work camps, county jails, etc... The major institutions are operated by the state with counties having responsibility for local jails subject to state supervision. Approximately thrity-eight percent of all adult felons currently subject to correctional authority are in institutions. This then is an overview of the criminal justice system. It gives you some idea of the complexities involved in the system.

Therefore, when we think of achieving quality supervision in the criminal justice system through work experience we would most generally take into account the various disciplines involved; the goals of each, the diversity of tasks, and the behavior objectives of their personnel. But when we think of our theme, "A Continuing Search for Quality," we must think of research and innovativeness in a changing society, which affects this system. The American Justice Institute is involved in a project entitled "Systems and Training Analysis and Requirements for Criminal Justice Participants." It is funded by the Law Enforcement Assistance Administration, the California Council on Criminal Justice, the Michigan Office of Criminal Justice Programs, the New Jersey Law Enforcement Planning Agency, and the Texas Criminal Justice Council. In their project report summary of findings they stated that Project STAR, which this project is better known as, has been designed to have an impact on the reduction of crime and the improvement of criminal justice resulting from improved performance of operational personnel. The Project observations involve indentification of roles, tasks, and performance objectives, determination of goals and skills requirements, formulation of educational recommendations, development of training packages, and the identification of selection criteria for all positions. In addition education programs for the public will be developed. Pertinent social trends impacting on the criminal justice system will be identified and plans for the implementation of these products will be outlined. Project STAR's design provides for four major research methods to be employed in the accomplishment of these objectives. (1) Analysis of perception through survey techniques. (2) Observation of individual performance in the field. (3) Search of appropriate literature related to the criminal justice system and for expert opinion.

Surveys were conducted to determine how a representative sample of the public in California and of the operational criminal justice personnel from the four participating states perceive the criminal justice system. These responses were analyzed to identify their constructive expectation of the system; and a total seventeen roles were identified. Agencies were selected and staff teams conducted role performance analysis of roles and associated tasks during periods of observing the various criminal justice personnel at work. Performance objectives were written for each position based upon the empirically derived and observed roles and their relationship to the task performed in the line with their individual position responsibility. These findings were then submitted to professional resource groups in four states experienced in the field of criminal justice, advisory councils and special consultants. A search of the literature was made to compare project findings with those relevant research projects and to analyze social trends with a potential for impacting on the criminal justice system. These finding in the literature provided contextual background for the state.

The major findings resulting from project research on the roles, tasks, and performance objectives are characterized as:

1. Related Research Findings: Where project results were compared with other findings and where the grades between the perceptions of the ideal roles of the criminal justice personnel are viewed as different from the real world of roles for these individuals;

2. Social Trends: Which reflects how the impact of such trends as population growth, urbanization, democratization, and economic affluence impact on the criminal justice system with implications for the selection, education and training of its personnel who are confronted with conflicting issues such as assembly-line vs. individualized justice, custody vs. treatment, impartiality vs. discretion in a rapidly changing society;

3. Futurist Papers: Which outlined the nature of future themes in the field of criminal justice where the emphasis will be on major crimes, protection of rights, rehabilitation, effectiveness, and where increases will be seen in the use of informal or negotiated disposition, diversion, or community based corrections. Each of these factors point to the requirements for improved education and training, measures of effectiveness, and improved availability of information;

4. Roles: Include a total of seventeen roles, thirteen of which are considered to be system roles related to more than one position and twelve related to the position of judge, thirteen for police, case workers, and correctional workers and fourteen for the prosecutor and defender;

5. Tasks: Which included a total of fifty-two tasks identified for police, thirty-nine for case workers, thirty-eight for correctional workers, twenty for prosecutors, eighteen for defenders, and fifteen for the judge. Thirty of the fifty-two were considered to be assistant tasks since they related to two or more positions;

6. Performance Objectives: Performance objectives were outlined for each position based on the relationship existing between the roles and tasks.

In addition to the commonality evident throughout the roles, tasks and performance objectives there was little variation among the four states when these roles, tasks and performance objectives were compared by position.

I believe the result of Project STAR will have a big impact upon achieving quality through supervision in criminal justice. If supervision is to be effective then the supervisor must evaluate subordinates behavior based upon the role and objectives of their positions. In criminal justice the aforementioned has to be clearly defined.

In fact, an analysis of the findings of Project STAR has led to conclusions ranging from the prediction of increased occurrence of crime during the 70's, variations of the perceived goals among all criminal justice personnel, agreement on desirable criminal justice personnel behavior between the public and operational personnel, the need for system training and emphasis, to the final conclusion that inadequate attention is being given in the criminal justice system to the impact of social trends, the perceptions of its personnel and the public, and to the importance of constuctive personal values reflected in the behavior of its personnel as well as the public. Finally, recommendations are made for the development of educational recommendations and training packages for operational personnel and education programs for the public based on the roles, tasks, and performance objectives and focusing on the system as an interacting, dynamic entity responsive to the impact of the currently existing and predictable social trends.

Once the roles, goals, and objectives are clearly defined, then an effective performance evaluation program in the area of criminal justice may be developed. The success of the system of course depends on a sufficient amount of accurate and relevant information on the performance of each employee being evaluated. Incidently, in the past most criminal justice performance evaluations were done in a rather perfunctory manner using essentially vague criteria such as initiative and dependability by supervisors who may or may not have adequately observed the workers' performance. Quality supervision depends upon identifying job related standards and that such standards relate to a well defined job and to the goals and objectives of the agency. To achieve quality through supervised work experience requires constant observation of the behavior of personnel for how else may a supervisor personally direct the energies and abilities of an individual or group of individuals towards the accomplishment of predetermined goals.

Project STAR certainly emphasizes the continuing search for quality.

ACHIEVING QUALITY EDUCATION THROUGH SUPERVISED WORK EXPERIENCE -- AGRICULTURAL AND INDUSTRIAL --

By Gayle W. Wright
Parkland Junior College

As I review the conference proceeding to this point, I can only say that it is indeed a gratifying and humbling experience to be a part of this- - the Eleventh National Clinic on Technical Education. The naked truth is that we have amassed a group of leaders who represent the mainstay of technical education throughout the breadth and depth of this country. And in this arena, we, as co-equals, as firing line people, have been liberated to do a job. Fundamentally, that job is to prepare new generations of qualified personnel for the technical manpower needs of this nation. I, for one, am most happy to share in this responsibility and to be a part of the challenging era ahead.

Henry Ford said, "Coming together is a beginning, keeping together is progress, and working together is success." This clinic personifies success. We're gathered to deal with the "now" concerns and issues confronting this business of education. More specifically, we are concerned here with extending our educational delivery systems - - extending them to include the relatively new dimension in occupational preparation, that being structured on-job-training.

I feel a longstanding sense of involvement, and an on-going enthusiasm, for this approach in the preparation of young people. If you share in this enthusiasm, thank God for it. If you do not, pray to God that you will develop it, because not unlike other agencies of our society, educational institutions are now being held accountable for their products. And this is as it should be. Society has acted in a prudent, sage manner.

Very basically, on-job-training contributes realistic individualized experiences which help the student mature for entry into a highly competitive job market. It tests the effectiveness of the schools' instructional programs and sharpens the focus on the employability of graduates. Too, on-job-training draws emphasis to educational accountability and lastly, and most importantly, mandates a school world of work alliance.

As we look to the barebones essentials of a quality on-job-training program, we must consider as minimal: (1) a well-defined training triangle, (2) a training agreement or contract, (3) planned learning activities, (4) seminar activities, (5) evaluation procedures, and (6) a strong public relations program.

If we turn our immediate attention to the training relationship, we can see that an optimal arrangement among the student, training station, and the institution would be of equilateral triangular configuration. The student is involved in this relationship because he needs to secure additional competencies - - - competencies not afforded within the confines of an educational institution. The training center is involved because, as our economy continues to shift to a service base, a reservoir of qualified employable personnel is created; and the school is involved to extend optimal learning experiences to the student - - a basic founding philosophy educators have held dear for many years. Within the triangle created by this interdependent relationship, are the learning activities. These activities provide the base on which on-job-training survives.

The relationship just described is contingent upon the initial establishment of qualified training centers. This can be a difficult task; however, here is how to make this a simple job. Scrutinize potential training centers to identify desirable ones. This process should include: (1) securing nominations from students, (2) driving by potential centers, (3) accepting invitations from employers to cooperate, (4) talking informally with employees of centers, (5) talking with people who do business with centers, and (6) reacting to personal impressions. Contact each desirable training center for an appointment to discuss the curriculum. Follow this with a letter to the management, confirming the appointment and include a brochure describing the curriculum. Structure the appointment to include the importance of on-job-training as a part of the curriculum. Then ask the training center to do three things: (1) sign a training agreement, (2) assist the student in accomplishing various learning activities, and (3) evaluate the student. Answer any questions the potential training center may have and secure a commitment from the business or agency to serve as a training center. The commitment may have to be secured on the phone after the training center management has thought about this training union. Advise the confirmed training centers that the student trainees will be in contact via letters of application, and advise the interested student to write those letters of application. Coordinate the results of the interviews so that students and training center managers are aware of which students will be training at which centers. Lastly, schedule a conference among the school coordinator, the training center, and the student trainee in order to complete the training agreement and to structure the first day of on-job-training activities.

Employers and educators have long agreed that the graduates of occupational programs should possess a good attitude, the ability to communicate, and technical competence. These attributes, or characteristics, must be developed through systematic instruction. This instruction should be relevant to future needs of on-job-training as well as the broader goal of fitting for life. The underlying goals of pre-training instruction should include: (1) the development of an occupational perspective, (2) the development of occupational vocabulary, (3) the development of basic skills required in the occupation. Optimum pre-training instruction will include contributions by other members of the staff, including those from communications, business education, social science, fine arts, physical education, pure science, and the applied sciences. A good cross section of courses from the other areas will help to develop the students' attitude, communicative skills and technical knowledge.

The student trainee must participate in instruction during on-job-training. The underlying goal of this instruction should be to provide exposure, practice, and understanding of occupational activities. The approach for accomplishing this goal should include the following: (1) a defined trainer-trainee relationship. The relationship must allow for the student to be responsible to one person. (2) The trainer should guide the student through the occupation by exposing him to the learning activities. (3) Specific activities of the occupation should be demonstrated to the student. (4) The student should participate in and practice the learning activity. (5) The student should discuss and study the activities to develop understanding, and (6) the student should assume a teaching role and instruct the school coordinator regarding activities of the business. These activities should be reviewed to determine if the student is competent with regard to the occupation. This can be accomplished by: (1) obtaining from the student the information regarding the activity, (2) observing the student in action, (3) giving an oral quiz, (4) assessing the comments from the trainer and other employees, (5) evaluating comments made in the seminar. The principal responsibility for providing various activities for the student should be shouldered by the trainer. However, the student is responsible, through his attitude and demonstrated ability, for the rate of progress. The school coordinator is responsible for maintaining open channels of communication, directing learning activity goals and verifying that the student is competent in the areas identified in the training plan.

Concurrent with on-job-training, and under the direction of the school coordinator, is the all-important training seminar. Seminar instruction should be informal and built around experiences of the student. The seminar can be satisfactorily scheduled for different time intervals and at different locations. The time interval may vary to include daily meetings for parttime trainees, half-day sessions during working hours, evening sessions each week, and weekend meetings. However, care should be exercised to meet at least once per week. The seminars can be held in schools, at training centers, restaurants, or in the home of the coordinator. The training seminar provides a means for self, peer, and instructor evaluation of on-job-training.

Oral reports should be presented by each student regarding what he has been doing, new situations encountered, successes enjoyed and problems incurred. Other students, and the instructor, should serve as a sounding board to evaluate these experiences. This should aid the student in solving problems and/or help the student cope with situations which cannot, and perhaps should not, be altered. In addition, the seminar provides an on-going academic approach to on-job-training. Much formal education is left in the classroom with the final examination unless a review and application of this knowledge is reinforced. The training seminar can provide an excellent medium for review. Individualized assignments should be provided for in-depth study and analysis of the student's training center and the work involved. The assignments will be most meaningful if they can be related to both pre-training instruction and to on-job-training. Projects should be assigned to develop an understanding of principles identified during on-job-training. The project should involve input from the trainer. Completed projects should be shared with other students and the instructor. The training seminar is also an excellent vehicle for acquainting the student with new publications and periodicals. Current topics expressing various viewpoints are usually available from these sources. Hopefully, this introduction to current literature will serve to interest the student in keeping abreast of the state of the arts. The training seminar will serve as an excellent platform for resource persons. The expertise held by individuals in the occupation can be tapped and utilized through this medium. Further, the training seminar can provide a medium of communication for the advisory committee. An advisory committee. An advisory committee can gain a great deal of insight into the curriculum by meeting with and interviewing students enrolled. It is one thing to evaluate and review curriculum objectives and courses outlines, but the program becomes humanized when students are involved. At least one seminar should be scheduled to allow the advisory committee to meet informally with the students. In this way the school can get reactions to various aspects of the curriculum. Additional structure can be added to the seminar by identifying specific topics for discussion. These topics can be disseminated early in the seminar and students can assume leadership roles in working with their topics. The following list is not all-inclusive, but certainly suggestive of appropriate seminar topics: (1) Interviewing for a job (2) Attitudes and morale (3) Employee rights, responsibilities, and benefits (4) Policies, rules , and regulations (5) Internal working relations (6) External working relations (7) The physical plant cost, maintenance and appearance (8) Training center organizational structure (9) Channels for supplies, equipment, and stock (10) Marketing channels (11) Operation of the business (12) Functions of sales (13) Functions of management (14) Customer or users relations (15) Laws affecting the occupation and (16) Government regulations affecting the occupation.

An on-going evaluation system is essential in the maintenance of a respectable on-job-training program. Evaluation of the student should be directed at helping him to improve himself and his work habits. Evaluation should also provide a basis for improvement of the curriculum. The means by which these evaluations can be achieved follows: (1) The learning activities for each occupational area should be closely scrutinized. Each learning activity should then be fitted into the basic lead question, "What does the student need to know to accomplish this specific learning activity?" The cumulative response to the lead question will constitute the pre-training instuction subject matter. (2) The trainee can be evaluated by noting the learning activities completed. This will describe what the student can do. In addition, the evaluation will be an indication of the students's attitude and ability to communicate. Thus, the three attributes that the employer is most interested in are covered. These, in order, are attitude, communicative ability,and technical competence. (3) The record of activities completed by several students should be compared. This comparison will indicate which training centers are providing the breadth and depth of experience desired. Thus, training center evaluation can be achieved.

If grades are to be assigned, the trainer's evaluation should be given a great deal of weight. However, greater weight is given to the school coordinator since (1) he observes a broader spectrum of students in a variety of situations and (2) the school assumes ultimate responsibility for the determination of the grade. In my judgment the singularly most important evaluative tool is the record of what the student can do - - a transcript far more revealing than the grade received!

An all-important undergirding for quality on-job training programs is a good public relations program. Good public relations is good communications. The benefits of good public relations will be shared by all three parties in the training triangle. The student will benefit by having more training centers to choose from and by ultimately having more jobs to choose from. The training center will benefit by having a reservior of trained potential employees to choose from And of course, the school will benefit from attracting more students and by being able to more easily identify and re-use training centers. The optimum public relation program should communicate the total occupational curriculum and continue throughout the year. Consideration should be given to the use of the following techniques: (1) Devise a snappy brochure to attract attention. (2) Utilize school catalogs with curriculum outlines and course descriptions. (3) Use the media extensively. (4) Publish advisory committee recommendations. (5) Use certificates of appreciation for training centers and advisory committee members. (6) Form a service-oriented youth organization. (7) Provide jackets and/or uniforms for students. (8) Use curriculum letterheads and calling cards. (9) Make school personnel and students available for speaking engagements. (10) Maintain follow-up information on graduates. (11) Provide placement services for both the students and training centers. (12) Provide luncheons for trainers, and (13) Accept scholarships from interested persons, businesses, and organizations.

In summary, let us be reminded that there's really no such thing as instant success in education The next best think is hard work! Let us also be reminded that our world is most unsettled - - the air is rotten, the gross national product is too high, people and nations hate each other, the water is polluted, dope usage is on the increase and our government is corrupt. And in light of all this, our educational delivery system has to do a more complete job of fitting folk for work than any other educational system has ever had to do in the history of mankind. That's an awesome task! Let's get about it with serious determination.

ACHIEVING QUALITY THROUGH A
STUDENT DEVELOPMENTAL (REMEDIAL)
POST-SECONDARY PROGRAM

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Background

In the Fall of 1964, approximately 500 potential students applied for a Technical, Vocational, Business, or a Health related course of study at Fayetteville Technical Institute. Each student was counseled and tested. From that group, 299 were accepted into curricula programs. In other words, we lost 40% of those who applied: from 15 to 30% of the students who applied were not academically capable of doing the work required in the programs based on school histories and standardized test performances.

By the Winter quarter, 1964, about 20% of those who started in the Fall quarter had been lost by the wayside. They had not succeeded in their programs and had sought success elsewhere, it is presumed.

These stark realities spurred us into developing an experimental remedial program.

In late summer of 1965, we decided to try to correct the problem we had at Fayetteville Technical Institute. Essentially, the problem was that the students who were entering who couldn't get through our "open door" could not perform academically at an acceptable level: Their prospects for success were far below average insofar as their use of scholarly skills (e. g., reading, writting, and rithmatic) was concerned.

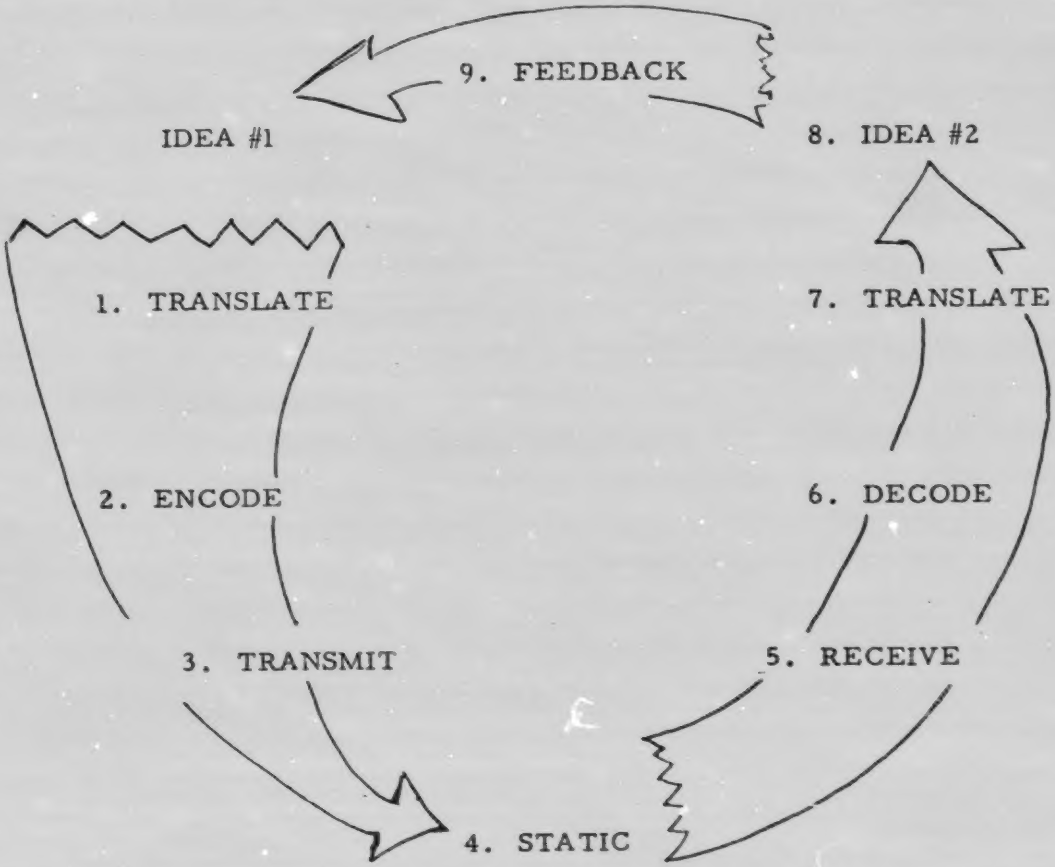
Let's start by identifying some terms we'll be using: when I use "quality" I mean that the traits and/ or completencies alluded to are of a high order. A quality reader is one who can read at an acceptable rate (350 - 750 w.p.m.) with a good rate of comprehension. A quality math student is one who has sufficient knowledge and skill in mathematics to follow the instruction and to handle the component concepts. When I say we can achieve quality through a student developmental or remedial post-secondary program, I mean it is administratively and academically feasible to accept students who test out between the 15th and the 50th percentiles on the standardized Differential Aptitude Test (DAT). Most students can be raised to above the 50th percentile on the DAT in a three academic quarter program or less.

The 50th percentile is used as a reference point here because our ten years of experience indicates it is a reasonably accurate predictor of success for students in technical education programs.

The phrase, "a student developmental (remedial) post-secondary program", refers to a combination of instructional learning experiences in post-secondary institutions of learning designed to develop persons with academic weaknesses into competent students who are able to perform the operations students normally perform in technical education programs.

Theoretical Underpinnings

Using our best judgment and experience factors such as were available, we determined that the problem lay in the experiencial reservoirs of the students. We set up a Preparatory Studies Program which, initially, was limited to English, Mathematics, and Physics. The theoretical underpinnings were drawn from communications theory, particularly the work of Wilbur Schramm's Science of Human Behavior (Urbana, Illinois: University of Illinois Press, 1961). Using a modification of his paradigm, I can explain the problem as we saw it.



In any educational effort, one must get an idea from one head into another head. To do this, one must put the idea into some form that will allow him to transmit the idea. To accomplish this translation from abstract to concrete one must draw from his encoding reservoir and arrange the components to fit the idea he wishes to present. This encoding, by using some symbol system (such as a language, verbal or mathematical), is limited by the reservoir one has to draw from, obviously. The person who has something to say, but "just can't put into words" typifies an inadequate lingual reservoir.

Once an idea is put into words (it is helpful for some to think of words as the baskets we carry ideas--the ideas are limited by the words we use to express them--the ideas take on the conformity of the words we use to express them), it must be transmitted.

The transmission usually is oral or written and must survive the "static" that exists between the sender and the receiver. The static can be anything that limits the reception, such as classroom voices, faint print, distractions, and so on.

That which is received must be in some form that the senses of the receiver are sensitive to: written, auditory, pictoral, tactile, etc...

Once received, a reverse of the encoding must take place. This decoding is limited to the reservior of the receiver: a person cannot understand words and situations which have no internalized meaning for him. For example, disregarding context, should I say, "See the cat", you could visualize:

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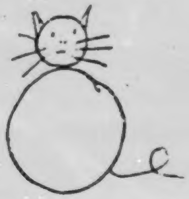

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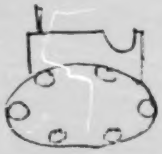

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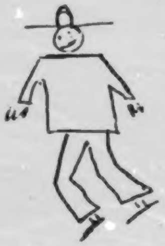

Or, were I to say, "There's too much tolerance", it would convey a considerably different idea to a young socially-conscious black and to an automotive engineer.

It was presumed that if a signal--a communication component--is received and cannot be decoded that it will be, essentially, a nonsense symbol. In Gagne's terms, it cannot be subsumed under a meaningful category and, therefore, it cannot become part of the reservoir, or indealtional bank, of the receiver.

You who are involved in education can readily see a contradiction between the above and Bruner's hypothesis that everything can be taught to anyone in an "intellectually honesty" way (whatever that means). I do not believe that the intricacies of any discipline can be paraphrased, rephrased or translated out of the discipline's jargon without losing much of the substance of that which is being conveyed. I also believe that while the receiver may be satisfied that he understands, an in depth evaluation will disclose critical voids in learning.

Once the information has been received, the portion surviving the static can be decoded and the concrete can be translated into abstractions retrieved from the ideational reservoir of the receiver. The second idea is then present. If all goes perfectly: that is, if there is no loss through the process, the idea received is precisely the same as the one with which the sender started.

The sender must have feedback--evidence of what portion of the idea survived--by some form of reaction from the receiver.

Further research and "brain-storming" explored the levels of communication that appear in the literature of the field. One writer working in the field, whose name escapes me, isolated six different "levels" of communication. They alluded to the complexity of the participation organisms experience when becoming aware of anything.

She maintained that some information is (1) strictly internal in origin (e. g., we know we are hungry independent of external stimuli). (2) Some awarenesses are directly felt but externally originated (e. g., by touch from some external source), (3) some things which are external in origin reach us over a distance. Our sight and hearing give ample examples of this level (4) The fourth level--abstraction which function as surrogates for things and relationships--is the first level which man has to the exclusion of lower animals. (5) The fifth level is one of applied intellect or problem solving in which abstractions are used instead of direct experiences and recall. (6) The sixth level--which includes insight resulting from mystical or intuitive experience--is not seen as having any direct applicability to the explanation at hand.

We did not pretend to have any final solutions to the problem at that time, nor do we now. Essentially, we were academia's local effort to fill a void and we knew it.

It appeared to us that the level we would most profitably strenghten would be the fourth and fifth levels, drawing from the second and third levels as necessary to structure independent abstract and insight levels in the students.

To develop a student, it is not enough to include only the sponge-like absorption of data. A student's attitude, discipline, and personal qualities must also be deliberately taught and consciously learned. These personal qualities are listed for each of the twenty-four technical areas included in J. G. Ferguson Publishing Company's Engineering Technicians, (ed. by Walter J. Brooking, 1969). Generally, these qualities include self-discipline, a willingness to work and a desire to learn, an inquiring mind, a sense of humor, and the ability to get along with and to communicate with others.

Unfortunately, standardized tests are not available to gauge the development of personal qualities learned. This is done, essentially by accepting that the process of learning is part of the learning. Parker and Rubins short book, Process as Content: Curriculum Design and the Application of Knowledge (Rand McNally & Company, Curriculum Series, Chicago, 1970) discusses a frame-work within which these qualities can be learned. An extension of their thesis is that if one desires that students learn rigor, he makes rigor a part of the process by which specific subject matter is taught, thereby making rigor (the process) part of the content (or that which is being taught).

Likewise, if one wishes to teach self-discipline, he requires that assignments be done on time, he rewards only actions which reflect self-restraint, and efforts which show that the student is directly himself toward the completion of assigned or implied course requirements.

Bloom, in his Taxonomy, referred to these essentials in the technician and in the technical student as being in the "Affective Domain". And, like the elements in his "Cognitive" and "Psycho-motor Domains" are valid components of the instructional milieu. They can and must be taught to persons if these persons are to become competent students.

Instructional efforts to develop quality attitudinal/behavior patterns should include at least nine specific components. These are:

a. Responsibility for one's own efforts. Students must be led to accept that success and failure in one's work are the results of his own efforts rather than an arbitrary evaluative system, a negativeness rooted in past experience, and/or hiding behind some metaphoric "they". He must also come to grips with the reality that each of us has limitations, without acceding to defeat prematurely.

b. Communicativeness. Each student must be led to respect himself to the extent that he knows that his information and classroom contributions are of value. The idea that interpretations not universally held are somehow wrong should be refuted in the classroom. It is not necessary, in my opinion, that all questions be resolved by the superimposition of a consensus, however arrived at.

c. Pleasantness. All should learn that more is accomplished in an atmosphere of cooperation. Occasionally an unhappy student will become sullen. Humor is a very effective way to counter this stance--not barbed humor, but humor in which the pleasure is shared by all.

d. Enthusiastic. Students are better students if they can display excitement about what they are learning. This enthusiasm can be engendered by the enthusiastic, imaginative instructor.

e. Imaginative. Initially, students in remedial programs are very short of imagination. Shrewd questions and presentations of apparent paradoxes and their resolution can help students to break away from the pat, sterotypic resolution of questions. Exercises in describing the thing behind a sound can be helpful. It sould be recognized that some (many) students must be almost literally driven to employ their imaginations. Others, it seems, are actually unwilling to imagine or extremely insecure when using their imaginations.

f. Disciplined. Students must be disciplined to the extent their behavior is predictable. Some questions and situations are not enhanced by the employment of imagination or individual interpretations. The specific course components of English, mathematics, physical science, and the specific curricula content are, largely, not matters for interpretation. The quality student does what he should when and how he should in a predictable manner. He is disciplined. Discipline can and must be taught and learned.

g. Discriminating. Shades of meaning, small but critical differences, necessary and sufficient vs necessary but not sufficient causes, and other instances of discriminative importance should be learned.

h. Generalizing. Common properties, applicability of physical laws, and other relationships encountered will, perhaps subtely, teach generalization while drawing from elements discriminated.

i. Analyzing. A shrewdness when exploring relationships can be developed by explaining and discussing analogies. This should not be limited to giving analogy test but be extended to offering the individual students opportunities to expound on what makes two things analogous. As apparent relationships do not consistently bear up under perusal, the student is provided the opportunity to expand his relating capability by intellectual processes. The development of the above attitudinal/behavior patterns can be best accomplished in concert with specific efforts to enhance the students proficiency in the scholarly skills.

How it Operated

It appeared to us that to buttress the ideational reservoirs of the students we should stress the use of abstractions and problem solving. To do this, we decided on three core courses, English--for the verbal language development, Mathematics--for the numerical language development, and Physics--as a means to require that both languages (English and Math) be used together to solve problems. It was hoped that Physics also would make the physical limitations and capabilities embodied in the physical laws part of the students ideational reservoir for his use in more general context.

The plan was that we would accept a group of students who were not qualified to enter any regular curriculum. We would teach these students for three academic trimesters and retest them using the initial placement test (the Differential Aptitude Test--DAT). The second DAT would determine whether or not they could enter a regular curriculum.

We started with three groups of about fifteen students each: one pre-trade, one pre-business, and one pre-technical group. They would each receive five hours (one hour daily) in each of the three core subjects, as well as a course in their area of interest at a subcurriculum level.

My personal orientation was on language, (I had been hired to teach English), so I concentrated my efforts on constructing the English instruction as well as sub-dividing the whole into workable portions.

F. T. I. had been teaching some speed reading courses for adult evening students, so we had a controlled reader, a tachistoscope, as well as some film loops. We also had overhead projectors and chalkboards used in curriculum day instruction.

We also had about sixty copies of two different school editions of Reader's Digest. I interpreted my job as being: use what we have to teach our language to young adults who have managed to get through high school without learning it.

Our solution was to teach reading and vocabulary the first academic quarter, grammar the second, and more reading comprehension the third quarter. My rationale was that: (1) as English requires the acquisition of knowledge via symbols we'd do well to get the physical aspects started as soon as possible. I believe reading to be largely a physical matter with fatigue, ineffective eye-movement and span of vision being correctable with physical practice. I used the controlled reader and the tachistoscope essentially the way their producers suggested, initially. (2) As much of the meaning an author or speaker wishes to convey is separated, emphasized, elaborated upon, and limited by the rather extensive set of conventions we call "grammar", the second trimester was a complete review of grammar. The first day of class I told the students that I would presume they knew nothing about grammar. And, should I discuss something they already knew, they should have patience out of deference for those who needed it.

We worked through the grammar chapters and the spelling chapters concurrently. That is for the first ten-minutes or so of every class I called out words from the spelling chapter--the students spelled the words. (3) The third quarter was more reading, vocabulary study, and comprehension with the added requirement that the student write about what they'd read. During this quarter, I hope to build on what had gone before to "round out" the communicative capabilities of the students--particularly in writing and in the reconstruction of ideas verbally. (4) My experience indicated that a reason many students do not succeed is because they either (a) lack self-discipline or (b) they think learning is a "spectator sport". Students were assigned homework virtually every night. Each class period during the entire year started with a quiz of some kind: four days a week it was a spelling and meaning quiz on words they had been directed to learn. One day a week, usually Friday, the students were given an extensive quiz on the words used, and/or other material for which they were held accountable.

To further develop a work pattern, the students were assigned homework every night during the grammar trimester. The homework was collected, corrected, recorded and returned. The students were aware that the work must be turned in. If a student came without his homework a third time, he was sent from class to do his homework and was counted absent. As he was only allowed five absences during the quarter before he could be dropped from school, the jeopardy his non-performance placed him in became apparent. No one would "coast" through this program! They had been permitted to coast too long before we got them.

At the beginning of the first quarter, in which we started our preparatory studies program, all first year regular curriculum students were administered a reading comprehension test. The scores on this test were used as base points for the three main instructional areas: Trade, Business, and Technical. At the end of the first trimester, the preparatory studies students were given a comparable test a second time (the reading comprehension and vocabulary test used had a Form A and a Form B which were correlated above the .80 level).

A comparison of the developmental studies students to the regular curriculum students showed great improvement in the students' ability to read and to comprehend writter material.

After the program got under way, questions appeared. For example, should a student be required to take a course? Should he only take courses he was interested in? As was mentioned earlier aside from the English, Math, and Physics, each student was permitted to take an "elective" in his area of academic concern: pre-trade students could take welding or machine shop, pre-business students could take typing or bisiness machines, and pre-tech students could take drafting.

The professed interest of the student was, of course, critical. Experience with the students made some of us wonder whether or not their professed interest was an indication of a propensity to learn the materials as the literature suggested. In an if-then paradigm, the question was:

if (1) interest in a subject area is a pre-condition for learning and if (2) a student can't or won't learn that which he expresses no interest in then: (3) we should determine the students' interest and direct their efforts toward their interests.

However,
if (1) a students' statement relative to his interests primarily reflects what he has knowledge of, and if (2) the students' would benefit from being taken in areas beyond, or perhaps, in contradiction to his avowed interest, then: (3) the instructors would better serve the students by teaching what the sudents would need to know regardless of his "interest".

I ran a rather unsophisticated study in which I asked the students what they would like to read (this was to act as measurement of their interest), had the students read all the stories regardless of subject area, and then recorded how well they answered questions on what they'd read.

It was hypothesized that if prior interest was of overriding salience, the students would score appreciably higher (i. e., learn more of the subject material) in areas in which they had professed interest than in reading on subjects which they said they had low interest.

To get a better idea of the interest-learning relationship, the interest inventory was administered in November 1965 (to match against the scores of quizzes immediately following the reading to give immediate recall) and in February (to match against the scores of quizzes taken a week after the readings were read to indicate retention).

It was found that the students's interests, by topic, was persistent (Interest in November 1965 vs Interest in February 1966 was p. = .831).

However, a correlation coefficient of P = .215 between rank order of interest (as stated by the students) and immediate recall indicated that interest did not relate significantly to what a person may remember/learn. Further, a rank order analysis of the relationship between interest and what was remembered for a week was P = .407, indicating a highly questionable relationship between professed interest and retention.

Based on this study and independent observations another hypothesis relative to professed interest was formed: a person prefers what he is familiar with or he says his interests lie in areas which he feels are prestigious or are believed to be otherwise need-satisying. This hypothesis, along with the sensory deprivation writing of Hebb and Shultz, suggested that all developmental studies students should have a variety of exposures to vocational, business, and technical studies.

Changes In The Program

As stated, F. T. I. initially divided the Preparatory Studies into pre-trade, pre-business, and pre-tech segments with the pre-tech getting Algebra and Drafting, the business students receiving instruction in typing or business machines, and the pre-trade getting instructions in either Welding, Machine Shop, or Drafting in addition to an appropriate level of English, Mathematics and Physical Science. Each of the pre groups was essentially a downward extension of the regular curricula. This caused problems.

The biggest, most pervasive problem caused by the early identification of students according to curriculum area was that the mobility of the student was greatly reduced: pre-tech and pre-business stu dents could fail courses and be directed into pre-trade. Pre-trade and pre-business students could not gain entrance into pre-tech curricula because their development into competent students in their parent areas limited their access to preliminary courses for technical curricula (such as Algebra)

We needed a means of allowing for upward mobility of students between curricula. The students were forced to make a decision regarding their ultimate goals before they had sufficient knowledge and experience to do so wisely (i. e., at initial matriculation). The counselors had no experience-based data to use in advising the students until, in some cases, all doors but one had been closed. We also needed a means whereby a student whose goals exceeded his capabilities could be guided into pursuits offering him a degree of success without causing trauma.

After lengthy consideration and discussion of the problem and alternate solutions, we made a basic change in the, then, Preparatory Studies Program:

1) The goal of the program would be to turn out a student who could satisfactorily function as a student in any area he chose.
2) We established electives in the vocational, the business, and the technical areas of instruction. Each student was required to take one of each in subsequent trimesters.
3) No efforts were to be made relative to a students curriculum until he had completed the three trimester sequence.
4) To separate the new system from the old we changed the name to Developmental Studies.

The change in names was also to try to get rid of the downward extension aspects of the old program.

5) At the end of the first trimester, an end of course test was inaugerated to identify students who could manage a higher level of Mathematics.
6) Students who tested sufficiently high in Reading and Comprehension were permitted to enter a regular English grammar course.

Since those early beginnings and changes, we have subtelly gathered more information and we have sought to keep our program experimental in the sense that we are still trying to learn better ways.

The Student And The Instructor

There are three basic approaches to the utility of this communicative effort. There are ample examples of each available without listing them here.

The first approach is to use the ideation pool of the student as a limiting periphery within which the instruction must take place. Efforts to express complex relationships using only the vocabulary the students knew before the class are examples of this approach. This approach is characterized by few failures, but slow advancement.

The second approach is to limit the instruction only by the language or symbols necessary to present the ideas with maximum precision in the vocabulary appropriate to the discipline. This approach is typical of much technical instruction at the college level. I suspect it typifies the approach of instructional efforts which stress the maintenance of high academic standards. This approach is characterized by a relatively large number of failures but rapid advancement in the employing discipline.

The third approach is a hybrid in which the second approach is preceded by efforts to learn the specific vocabulary and ideational elements requisite to success before the course or courses are presented within a curriculum.

Referring back to our paradigm, we are saying that a considerable effort devoted to the construction of a vocabulary and ideational reservior, used in steps 2 and 6, can prepare students for work within their disciplines.

Generally speaking, the vocabulary and ideas of an average high school graduate from a good high school are sufficient to handle most acedimics of technologies. Granted, some programs, such as Nursing and Environmental Engineering, require that a student know some biology. Others, such as Machine Shop or Mechanical Engineering and Electronics, require Algebra. If students want to get into these programs, some specific course work must be available for students below the academic level of their instructional programs.

Practically speeking, a student in the 50th percentile, or higher, should be able to handl any curriculum he choses if he has the specific prerequisites needs.

Thus, we have a target, or goal, towards which to work: A student to succeed:

1. must be able to see and/or hear vocabulary item and intellectually connect the symbols with specific ideas and/or relationships.
2. must be able to choose a meaning for the symbol which it is appropriate to the context in which it occurs (e.g., tolerance in a social context vs tolerance in an engineering sense).
3. must be able to learn and to follow sequential applications or processes, attending to the component procedures even though their relationship to the overall process may be obscure. Examples of this are found in mathematics, English, and most technologies.
4. must be able to apply the components of different, dissimilar, disciplines together. That is one must use both English grammar and spelling along with mathematics when dealing with physics.
5. must be able to apply abstract relationship such as physical laws, to real concrete problems.
6. must be able to construct knowledge in the sense that a new idea must be capable of modifying an old idea.
7. must be able to abandon an idea which has been disproven and be able to retian an old idea until it has been adequately disproven.
8. must have developed the personal qualities noted earlier.

I believe the single most critical item in the production of a quality Developmental Studies program to be the development of instructors who can (1) conduct a class in such a way that the students are required to employ (rather than just "know") the personal traits desired while (2) following the flow of subject matter which the students must learn. Perhaps it would be helpful to briefly discuss the ideal teacher.

First, he is a generalist who, while adequately prepared in his primary academic area, can move comfortably in areas beyond his strict disciplinary requirements. Moveover, he must respect the components of other areas and appreciate the cumulative nature of all academic inputs.

Next, he is curious with a well-developed closure fixation. He is able to see problems and, perhaps compulsively, is driven to find answers or to understand relationships which he dosen't understand. He is still a student in all areas.

He appreciates the orderly atmosphere in which individuals limit their activities out of deference to the group. He is able to pursue unplanned contributing activities while disallowing the pursuit of the resolution of irrelevant questions. He knows he is the arbitrator and enjoys the role.

He knows that every student who he works with is capable of learning. Moreover, he knows that every bit of competency he can help the students to acquire will advance the student. He also knows that the Great Wall of China was built one stone block at a time and he is not willing to choose one of the stones as "most important". He does appreciate that the first row of stones, like basic elementary knowledge, must be well-established to support further construction. Still he realizes that, unlike the Great Wall, the precision of the placement of elements is less predictable: one is never sure which part of the finished product any one piece of knowledge provides for developmental students.

His imagination, interest, and good humor permit him to lead students into ideational areas which they do not know. He enjoys interpersonal verbal interplay and he can argue either side of most questions without losing credibility and he can guide students into acceptable mental stances surrepticiously.

And, he is one who believes completely in our republican form of government while directing his classroom like a benevolent dictatorship.

I believe that he is a builder who can, with administrative support and academic opportunity, construct quality students who will succeed in technical curricula.

Quality Of Program Graduates

Fayetteville Tech insists that the quality of instruction be maintained. We are accredited by E.C.P.D., the Southern Association of Colleges and Schools, the American Nursing Association and other specialized accrediting agencies. Consistently, we have demanded that our graduates can perform as their degrees or diplomas assert.

Thus, we had to retain the students without watering-down the curricula.

To give a measure of the program's success, one can look at our results:

Of the 66 students who started as developmental studies students in September 1066, 14 or 21.2 per cent completed a one or two-year regular curricula program. Of the 117 students who started as developmental studies students in September 1967, 26.6 per cent satisfactorily completed a regular one or two-year program. Table 1 summarizes the efficiency of the program as reflected in student retention and advancement.

Marked success was reported by Cavano after a three-month preparatory English course in 1965. After developing the course alluded to by Boudreau, Cavano found participation in the course equipped the preparatory student to equal or surpass the test performance of students who had been accepted into regular curricula. *

TABLE 1

EFFICIENCY OF DEVELOPMENTAL STUDIES AT FAYETTEVILLE TECHNICAL INSTITUTE, 1966-1969 [a]

Academic level satisfactory completed	Year starting in program			
	1966	1967	1968	1969
Students enrolled . . .	66	102	117	131
Completed Developmental Studies Program	45(68.2) [b]	72(70.6)	81(69.2)	90(68.7)
Returned and entered into a regular curriculum	30(45.5)	65(63.7)	55(47.0)	66(50.4)
Graduated from a regular curriculum . .	14(21.2)	27(26.6)	39(33.3)	

[a] Table 1 derived from date presented by Boudreau. Howard E. Boudreau, "Student Recruitment and Developmental Studies Program" (address given at the American Vocational Association Convention in New Orleans, December 5, 1970 A copy may be requested from President Howard E. Boudreau, Fayetteville Technical Institute, Fayetteville, North Carolina.

[b] Per cent of those who enrolled who attained various academic levels are parenthesized.

Continuing efforts at F.T.I. raised the percentage of students who completed remedial instruction and regular curricula offerings, ending with an Associate Degree or a Diploma, from 21.2 per cent to 33.3 per cent during a four-year period.

F.T.I.'s Developmental Studies Program also has permitted initially acedemically unprepared students to rise to roles of leadership in many areas: one of our first students was elected to President of the Student Government as a senior, another of our students is presently working in a Veterans liaison function for the college--he is finishing his M.A. in Guidance and Counseling. Many others have become leaders in the community in all realms of commercial activity--from sales-managerial work to various baccalaureate programs--after having completed a one or two-year curriculum at F.T.I.

I have come to believe that many apparently unqualified students are like high-grade seeds who need but a fertile environment in which to germinate after which they can grow with the best.

Conclusion

Our program is designed to produce students. The students who successfully complete the Developmental Studies Program are able to hold their own against students right out of high school or to surpass them in later curricula work if they accept the limitations of their abilities which have been identified.

The program has permitted several hundred young, and not so young, adults to open new doors: Doors, which would remain closed without the programs, have been opened.

A peripheral effect of the Program has been gratifying. That is that now the larger community, secondary schools, and other schools and colleges are accepting the fact that there is hope for all. This hope, with hard work and opportunity, can be nurtured into success for a person regardless of his age or lack of prior academic success.

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* This group of students are the 66 who arrear under "1966" in Boudreau's "Efficiency of Developmental Studies" table. Arthur Cavano, "An Evaluation of Preparatory English Instruction for Technical Institute Students" (Fayetteville, North Carolina: Fayetteville Technical Institute, 1965), pp. 9-10. (Mimeographed.) A copy may be obtained from Fayetteville Technical Institute, Fayetteville, North Carolina 28303.

DEVELOPMENTAL (REMEDIAL) PROGRAMS IN THE SERVICE-AIR FORCE

Dr. Lloyd Maxon
USAF School of Applied Aerospace Science

Some educators suggest that 25 percent of all students have such serious reading, writing and arithmetic problems as to render them academic failures. Twenty-five percent projected across our population of 200 million totals 50 million people. That represents a lot of problems. Using the six grade as a dividing line between literacy and illiteracy, Texas has an estimated 731,000 illiterates, and the total for the Southern states alone is 5 million.

The U. S. Air Force recruits its personnel from the general population. Even though qualifying examinations are administered to applicants and preclude enlistment of individuals with the most serious deficiencies, there are a number of compelling reasons for the Air Force to operate remedial programs. Most of these reasons are the same for the Air Force as they are for civilian business and industry.

Today, there are fewer and fewer jobs which can be performed by low proficiency airmen or airmen having basic skill deficiencies. Technicians are still needed to maintain air planes, but the aircraft they work on are becoming increasingly complex. Reciprocating engines have given way to jets with higher and higher thrust ratings. Airframes are constructed of new high-strength alloys which require special care and repair techniques. Simple pilot instruments have given way to such developments as on-board computers and terrain following radar. Armor plate has given way to radar warning and electronic countermeasure equipment. Fire control systems lock onto targets and automatically fire the missiles and guns. Bombs are guided by television cameras and lasers. Tow targets have been replaced by remotely controlled drones. In addition, there are air-to-air, air-to-ground, ground-to-air and intercontinental missiles, satellite communication links, computers and data transmission systems to operate and maintain. Skill deficiencies which inhabit airmen's progress through courses designed to qualify them to operate and maintain Air Force equipment must be overcome through remedial programs.

A second reason for the Air Force to conduct developmental programs is to assist its members to prepare for more responsible jobs and increase their chances for promotion. Noncommissioned Officers are the first level supervisors and, in many instances, exercise second or higher level supervision. Supervisors must give directions, read and prepare correspondence and reports, instruct and counsel their workers,prepare performance reports, conduct conferences and motivate their workers. Effective supervision and leadership requires proficiency in the communicative skills of reading, writing, speech and arithmetic.

A third reason for the conduct of developmental programs is to increase the worth of the individual in the civilian manpower pool or prepare him to continue his education after he leaves the Air Force.

An ancillary reason for conducting developmental, technical and other educational programs is recruiting and retention. Independent surveys have indicated that more people enlist in the Air Force because of the educational opportunities which it offers than for any other reason. Reenlistment depends not only on how well the Air Force delivers on its promises, but also on how well it delivers on apportunities for advancement and the realization of the educational goals of the individual.

The history of developmental education in the Armed Services is interesting. The Thirty-Ninth Congress in 1866 passed a bill to reorganize the Army. It contained a provision which stated, "That whenever troops are serving at any post, garrison or permanent camp, there shall be established a school where all enlisted men may be provided with instruction in the common English branches of education and especially in the history of the United States . . .and it shall be the duty of the post or garrison commander to cause to be set apart a suitable room or building for school and religious purposes." In 1916, this law was changed to read, "In addition to military training, soldiers while in the active service shall hereafter be given the opportunity to study and receive instruction upon educational lines of such character as to increase their military proficiency and enable them to return to civil life better equipped for industrial, commercial and general business occupations . . .part of this instruction may consist of vocational education either in agriculture or the mechanic arts." In 1947, when the Air Force became a separate branch of the Armed Services, this section was retained and the provision for a school in the 1866 law was revised to read, "Schools for the instruction of enlisted members of the Air Force in the common branches of education, including United States history, shall be maintained at all air bases at which members of the Air Force are stationed."

The need for developmental education for adult members of the Armed Forces has existed from the beginning of our country. Historians tell us that, contrary to public belief, George Washington, our first Commander-in-Chief, had received no schooling that today would be considered beyond the sixth grade. Two other Commander-in-Chiefs, Abraham Lincoln and Andrew Jackson, although considered to be poorly educated, had more education than General Washington.

Before I describe Air Force developmental and remedial programs in detail, I believe an overview of our situation would be worthwhile. Slightly more than 84 percent of the 570,000 enlisted personnel in the Air Force have high school educations. Slightly over 62,000 have some college; and 13,000 are college graduates. Each Air Force base has an Education Office. These offices are staffed with 221 counselors, and there are plans to add 21 more. Many of the bases have conducted developmental programs for more than 20 years. Currently, 31,000 airmen are enrolled in developmental programs. In fiscal year 1973, 10,434 airmen completed requirements for high school diplomas. The Air Training Command, which is one of the Major Air Commands within the Air Force and the one to which I belong, had 1570 high school completions in calendar year 1973. Sheppard Air Force Base just this month achieved the distinction of having no permanent party personnel who did not possess a high school diploma.

This does not mean there are no airmen with basic skill deficiencies. The Air Training Command alone currently has nearly 700 airmen enrolled in developmental courses. Even though over 95 percent of the current enlistees have a high school diploma, our Base Education Office personnel estimate that 10 percent of our airmen need developmental courses in reading, writing, speaking or mathematics.

The general operation of the Educational Services Program is uniform throughout the Air Force, but there are numerous variations depending upon local conditions. At the first duty station after completion of initial training, which includes basic training for all enlistees and fulltime technical training for the majority, each individual must be interviewed by a member of the Education Services staff. His educational background will be reviewed, and he will be counseled on his educational development. Within 30 days after assignment to a new duty station, each individual will again be interviewed and advised of the educational opportunities at the base.

Individuals identified as not having a high school diploma or a GED equivalent must take all parts of the USAFI Achievement Test III within 30 days of the interview. This test is the USAFI version of the Metropolitan Achievement Tests. If the results are below the seventh grade range of the test, the USAFI Achievement Test II will be administered within two weeks. Individuals are advised of their scores within a week. If the individual does not score at least at the ninth grade level, the Education Officer is not allowed to administer the high school GED battery. As a matter of policy, many bases test all individuals who do not have at least one aptitude score of at least 60 on the Airman Qualifying Examination, even though they may possess a high school diploma.

Individuals, whether high school graduates or not, identified as having definiencies in basic skills are enrolled in the Pre-Discharge Education Program (PREP). This program has two objectives: to provide non-high school graduates an opportunity to qualify for a high school diploma; and to provide opportunities to complete remidial, refresher or deficiency courses required or preparatory to the pursuit of VA-approved programs at the post-secondary level. This program name is really a misnomer for the Air Force because reading, writing, speaking and arithmetic competency are primary tools in the performance of most jobs. This program is more appropriately titled the "Career Advancement Program" within the Air Training Command.

If an individual has completed six months' active duty, the PREP or CAP expenses are paid by the Veteran's Administration. It differs from the other VA in-service programs in that: studies to correct basic skill deficiencies are not chargeable against the indicIduals VA entitlement; and the educational allowance may include VA-Approved costs for textbooks and other instructional materials, as well as tuition. If the individual has not been on active duty for six months, costs may be paid using Air Force educational services funds.

Whenever possible, arrangements are made with civilain institutions to conduct the developmental courses. Classes are conducted during normal duty hours in many instances and may include adult dependents of Air Force personnel on a space-available basis. Dependents, unless they have a VA entitlement, must pay their own fees.

A number of the courses needed for high school completion are conducted by the Wichita Falls Republic School System as part of their Adult Basic Education Program. This is quite typical of the operation of the program where an Air Force base is in close proximity to a reasonably large city.

Institutions participating in Servicemen's Opportunity College Program typically offer developmental courses under PREP. At Sheppard, we average between 50 and 60 enrollees per semester in a developmental reading program conducted on-base by Cooke County Junior College.

Group study classes may be offered when PREP or CAP is not available, provided 12 military personnel have enrolled in the course. Minimum class sizes can be waived at isolated installations with assigned strengths below 350, provided at least seven military students are enrolled. Most courses run for 12 weeks. When PREP or CAP courses are not offered, USAFI materials are used, unless the Major Air Command has approved other materials. Costs are paid by the base conducting the training, using Air Force educational services funds.

Many Air Force bases provide typing Courses for administrative, supply and similar personnel who need the skill. This training is conducted by Air Force technical schools in many instances; but, in addition, last year the Air Training Command alone spent over $9,000 to hire typing instructors to satisy this need.

Remedial training is also provided while airmen are attending one of the nearly 800 full-time courses which are conducted by the Air Training Command's four Schools of Applied Aerospace Sciences or the School of Health Care Sciences. When a student is unable to pass a daily quiz or a block or criterion examination, he is counseled and may be placed on remedial instruction or washed back to repeat the training. The formal examinations are administered at least each three weeks. Remedial studies takes precedent over all other activities, except hospital or legal appointments or emergency leave. The student literally stays after school for additional study with a qualified instructor.

Students are withdrawn from training when they are unable, after washback or remedial instruction, to satisfy course proficiency requirements. They may be assigned to a less demanding course within the aptitude area for which they enlisted or be assigned directly to an operational unit for on-the-job training. When they arrive at an operational unit, they are assigned to an individual for training and are enrolled in a career development correspondence course. These courses are prepared by curricula personnel assigned to the resident schools and are administered by the Extension Course Institute which is located at Gunter Air Force Base, Montgomery, Alabama. Career development courses are published in volumes. When a student has completed the written materials in each volume and has completed the recommended performance exercises, he takes a Volume Review Examination. When a student fails a Valume Review Examination, he repeats the training and receives additional instruction. When he completes all volumes in a course, he is administered a formal examination. If he achieves a satisfactory course grade, he will be enrolled in the next higher level in his specialty. There are usually three performance levels in each job specialty. If he fails a course twice, he will probably be enrolled in developmental skill courses, if he is not already enrolled as a result of counseling and testing conducted by the Base Education Office.

Students graduating from full-time resident courses enroll in second level career development courses when they arrive at their operational units. Currently, more than 97,000 airmen are enrolled in career development courses.

I would be unfair to many dedicated Air Force and Department of Defense personnel if I did not, to a limited degree, describe the other educational programs being conducted by the Air Force. Over 200,000 airmen each year complete formal technical courses conducted by the Air Training Command. Almost 60,000 are enrolled in undergraduate and graduate courses and 15,000 are taking post-secondary technical and occupational courses conducted by civilian institutions. In 1971, 47 bases had civilian-conducted technical and occupational courses available to their personnel. Today, 131 bases have such programs available. Two-year college programs are offered at 136 bases. Today, 38 percent of the Air Force enlisted force is enrolled in some sort of educational program.

Occasionally, you hear remarks such as, "He got sick of school and dropped out to enlist in the Service." This is faulty in several respects. An individual cannot be enlisted unless he is a high school graduate, has been out of school a year or the high school principal agrees that enlisting is in the best interest of the individual. An individual who enlists to get out of school is also mistaken, because as soon as he enters the service, he will find himself back in school. The Air Force's attitude toward individuals having basic skill deficiencies in that, "When a man is chest-deep in quicksand, the one thing he does not need is to be left alone a little longer to solve his problem."

Equal educational opportunity for all requires a balanced program which provides access to quality education at all levels for all people in order for them to work productively and live decently. Nature gives us reprieves, such as having two arms, two legs, two eyes, two ears, two lungs, two kidneys, etc... A complete educational program should provide an opportunity to develop skills which were missed the first time around.

In closing, I would like to observe that "The Good Old Days" are probably not as good as we see them in retrospect. Given a choice, I suspect that, in spite of the problems caused by the rapid advancement of technology, most of us would choose about this time in history to live. I am reminded of an item I read a number of years ago. It said, "When words were chiseled in stone, and the tablet had to be carried, conditions dictated that words be well-chosen--and few." I may have talked too long, if so, blame it on the technology which created paper and got rid of the rocks.

Thank you,

REMEDIATION THROUGH INDIVIDUALIZED INSTRUCTION

Donna M. Seay, Project Director
Technical Education Research Center

This morning you will be seeing a presentation that explains what the Individualized Manpower Training System is and how it works. But before you see the presentation, I would like to take a few minutes to tell you about what the System has meant to some of the students that it has served.

As professional educators, we must necessarily be concerned with administrative strategies and organizational planning; but our students have more basic and more personal concerns. They are trying to find ways to make their lives more meaningful and more productive. They want to be able to support themselves and their families. They need remediation through individualized instruction to help overcome the educational barriers that are keeping them from success.

The kind of help available to them through the IMTS––the Individualized Manpower Training System––is somewhat unique in that it offers them the opportunity to develop in themselves independent learning behaviors which will sustain them long after their formal educational experiences.

As educators, we must think in terms of the life goals of hundreds, or even thousands, of students; but the students whom we serve have only one life's goal to risk––their own. It is these one–of–a–kind needs that the Individualized Manpower Training System has been designed to meet.

One of the newest of the ten national pilot–demonstration sites for IMTS is at Indian River Community College in Fort Pierce, Florida. Indian River's IMTS has been in operation for about a year. Already the IMTS Center has helped change the lives of hundreds of persons attending the college or preparing to attend it. Here are a few examples from the files:

Jessica M. entered the college after high school and failed her required freshman math course. Testing at the Center showed that she completely lacked an understanding of math fundamentals. She was assigned to a self–paced study program at the Center, overcame her problems on her own, and received a "B" when she took the required math course again. Now she has moved to the next level of math, and is doing well in that class also. Through the IMT System she has been able to develop her own skills for advancement.

Two nurse assistants recently completed a college–sponsored course at a local hospital and now want to become Licensed Practical Nurses. In working toward this goal, they have enrolled in refresher courses at the center. The Center is giving them individualized help in preparing for a productive life's work.

A South American student was completely lost in his classes at the college. He had studied written English in his home country, but could not speak English or understand it when it was spoken. At the Center he participated in an intensive auto–tutorial course in both spoken and written English. Now he is able to communicate amazingly well and is majoring in auto mechanics. He will be going on to a course in automotive design when he finishes work at Indian River.

Sallie B. is a former migrant worker, with five children. She never was able to finish high school. At the Center she has received instruction that enabled her to pass the GED tests and enroll in the college. Now she is studying to become a secretary.

Mike G. is a 45–year–old veteran who is studying for a middle management job. At the Center, he was able to develop skills necessary to pass the basic mathematics course included in his management training. Now he is coming in for help in formal grammar and is well on his way to a successful second career.

These are only a few of the persons who have been helped through the Individualized Manpower Training System at Indian River. They and their fellow students do not know the details of the organization that has helped them on their way to a more productive life; but they do know that the System has worked for them. The slide–tape presentation that follows will show why the System works, and what it can mean to other students across the country in the future.

(The narrative of the tape–slide presentation is as follows.)

Introduction to the Individualized Manpower Training System

A progressive society cannot function at maximum efficiency unless all of its citizens are productive. And, a basic assumption of our society has always been that the dignity of any man must not be eroded by ignorance. We know that lack of educational skills and undesirable behavioral patterns are the most universal characteristics of chronically unemployed or underemployed adults. These characteristics are causing problems throughout the country. Typical of these problems are: lower earning power, higher rates of unemployment, greater dependence on public welfare, and ineligibility for many vocational and technical training programs.

There is growing concern that this educationally and economically "disadvantaged" population is increasing rapidly, especially in the cities and may soon comprise 50% of the public school population. Many of these individuals are not benefiting from the existing educational processes——as evidenced by patterns of social, economic, and educational failure. These failures are causing problems for industry as well as the military.

Educational Problems and Needed Improvements

Within this context, we should point out that extensive research has uncovered three significant problem areas in which educational reform is imperative: irrelevant content, weak incentives, and unclear goals and objectives. In short, these are the areas in which improvements can be made, but it requires a new approach and a new system that assures quality results.

A system that assures quality results must:

- Consist of relevant instructional materials for trainees to achieve their academic and occupational goals
- Be highly individualized to meet specific learning deficiencies and needs of the individual
- Be efficient——one that enables the trainee to maximize his time, talent, and abilities

- Include the use of incentives which are meaningful and motivating to the individual
- Allow trainees to enter the program at any time and to progress as quickly as possible so that they may exit at any time their objectives have been achieved.

Such a system, the Individualized Manpower Training System, includes all of these desirable characteristics. These characteristics are briefly described in this paper according to the component programs and procedures used in the System.

Description of the IMTS

The IMTS is adult–oriented and is designed for individualized delivery of basic remedial education and related vocational knowledge and skills––including prevocational and exploratory activities. The System serves those who need guidance in making serious and durable career choices and then in selecting the related training course. And it serves those who need prerequisite vocational skills. All of these services assure the quality needed in gaining access to and benefiting from occupational training.

Component Programs

In order to serve these needs, the System is comprised of several sub–systems called component programs. These include: Adult Basic Remedial Education, an Employability Behavior Program, a Complementary Skills Program, an Occupational Exploratory Program, and Prevocational and Occupational Training Programs. A trainee may participate in any or all of the programs depending upon his specific requirements. By design these programs may be viewed as either educational or exploratory. In the following descriptions of the component programs, we can see how they can stand along and are yet interrelated and motivating.

Basic/Remedial Program. At the heart of the System is the ***basic/remedial program.*** The need is simply stated. . .Many adults cannot benefit from occupational training without the mastery of certain basic skills in the areas of reading, arithmetic, and language. Obviously, these basic skill areas also affect one's ability to get, keep, and advance in a job.

Occupational Exploratory Program. Another major component is the Occupational Exploratory Program. Within this program, there are several major activities or services offered which include:

- Simulated Work Samples
- Lab Tours with Training Samples
- Occupational Information
- Testing
- Career Goal Setting and Group Motivational Activity
- Vocational Guidance

The Occupational Exploratory Program is adult and job--oriented. It is intended for those in need of career guidance and assistance in selecting a realistic training course. This program is especially suited for new enrollees and trainees who appear to be mismatched with their present course and career.

Within the Occupational Exploratory Program, the simulated work samples help fulfill the need for reliable and functional assessment tools in the area of career guidance and training course selection. Samples of hands–on work allow both trainee and evaluator to compare, contrast, and objectively analyze many occupational areas in simulated multi–media work settings. This also enables an assessment of the trainee's work abilities, work quality, work habits, interests, aptitudes, and his training needs.

Lab tours with training samples have similar objectives to that of the simulated work sampling activity. In addition, however, lab tours provide the trainee with opportunities to meet the instructors and students in several different environments.

Occupational information as an activity is supplemented and extended with the use of various commercial packages. These include structured audio–visual programs and other resource materials which cover a broad range of occupations.

Testing has proven to be more acceptable and reliable when used as a tool to complement a broader and more comprehensive service. The IMTS utilizes the TABE, or Tests of Adult Basic Education, as its primary testing instrument for achievement in the basic academic areas. Occupational interest inventories also serve useful purposes within this System. Other instruments can be provided where needed.

Another integral part of the Occupational Exploratory Program, the career goal setting and group motivational activity is an additional option that can benefit most trainees. This is necessarily a group process in which most of the content is supplied by the participants. It is designed to improve one's self–concept by eliciting important motivating factors which each person needs to more fully direct his life and to mold his future––a feature which can be especially helpful to the disadvantaged.

Vocational guidance is the thread which ties the entire program together. And the focus is on expanding both the number and variety of career opportunities from which an individual may choose.

Prevocational Program. Counterpart to the basic/remedial and Occupational Exploratory Programs is the Prevocational Program. This component draws on well–developed multi–media programs for prerequisite learning. For example, many trainees will lack certain fundamental knowledge needed to gain access to an occupational training course. Others will need to master certain fundamental tool skills in order to benefit from the initial instruction offered in the lab program. The Prevocational Program can help provide these needed prerequisite skills and job knowledge.

The two remaining components, Complementary Skills and the Employability Program, complement the specific skill training and exploratory activities.

Complementary Skills Program. The Complementary Skills Program offers a broad application of specific skill training to areas such as consumer education, health, personal and social skills. Without such skills, persons may well be denied the benefits of employment and of our social system.

Employability Program. The Employability Program is a motivational behavior shaping program in the areas of time–keeping, property and resources, and job achievement––areas considered critical to employment. Participation in this program can provide the trainee with basic criteria for improving such habits as: absences and lateness; failure to take proper care of the employer's property and resources; failure to meet the employer's job achievement requirements; and failure to conform to work rules. This program also helps in detecting patterns of behavior which tend to get people fired. To remedy these, trainees are provided with specific opportunities to exhibit desirable behaviors and to practice techniques of self–management.

To summarize, the IMT System can offer to youth and adults the following component programs:

- Occupational Exploratory
- Basic/Remedial Education
- Complementary Skills
- Prevocational
- Employability

Now that these component programs have been described, we will review the procedures used in the IMTS to assure quality in their implementation.

Procedures Used in the IMTS

The IMTS is a high–performance–oriented system which applies specific procedures for diagnosing learning difficulties and prescribing remediation ***and*** for managing and evaluating trainee performance. These procedures are more clearly defined for the remedial education component.

Interviewing. The procedures are implemented after each individual has been given vocational guidance in selecting achievable academic and vocational goals that have relevance and motivational value to him. Guidance is given by using both individual and group techniques. Several interviews are necessary to collect personal data and to assist the trainee. The information collected during the interviews provides a basis for diagnosing and prescribing for all the components.

Diagnosing. Diagnosing what any given trainee knows and does not know in the areas in which instruction is to take place requires special instruments and techniques. For example, the TABE, or Tests of Adult Basic Education, a multi–media achievement test, is used as the first level of diagnosis. This first step includes a Locator Test which identifies the appropriate level of the TABE to be administered to each trainee. The second step allows a more precise assessment within that located level of ability. These levels are designated as ***Easy***, ***Medium***, and ***Difficult***.

The trainee's performance on the TABE is then analyzed in terms of specific skills and knowledge. The analysis of these areas is conducted via a special instrument called the Modular Analysis of Learning Difficulties or the MALD and produces for the Learning Manager and the trainee a picture of his strengths and weaknesses.

Prescribing. With this information, the Learning Manager can develop a prescription with the aid of a special prescribing catalog. However, the diagnosis must be further refined by using the pretests for specific modules of instruction which have been prescribed. The prescription is a logical, priority–ordered sequence of learning via small modules of programmed instructional materials. These materials make it possible for the trainee to learn at his own rate and often in his own style. By style we mean the instructional media best suited to the trainee in terms of its motivation and reinforcement quality. There are often alternative modules listed in the Prescribing Catalog from which the Learning Manager may choose. And, of course, the instructional modules need not be exclusively programmed and programmed instruction need not be exclusively printed media.

Once the prescription is systematically developed, it becomes the trainee's study schedule and evaluation instrument. Instructional time, test time, test performance, and tutoring time provide an accurate accounting of trainee progress on each instructional module.

Managing. The IMTS does *not* include teaching in the traditional sense. That is, Learning Managers function more as managers of behavior than as subject–matter specialists. For the trainee, this means that learning becomes a desirable and independent behavior. Every attempt is made to involve the trainee in his own learning process and management. This is done through immediate feedback and social reinforcement of desirable behaviors.

Progress checks, learning accomplishments, successful tests, and other factors all contribute to this critical reinforcement. The trainee is constantly made aware of his progress toward the goals he has established for himself. Appropriate management of the System tends to reduce the possibility of failure. The individualized approach also reduces peer pressure which can be most damaging for some adults.

Evaluating. Evaluation is an essential process within the System. It has to do with providing the individual with frequent and continuous feedback by evaluating his progress and accomplishments. Frequent feedback helps to insure retention of learning within a reasonable time frame. Evaluation also helps in determining whether the modules which were prescribed were, indeed, the "proper medicine."

Evaluation takes place throughout the learning process and is essential to managing the progress of each trainee. This process, which is called Formative Assessment and Management, provides action–oriented assessment and feedback. As such, it is comprised of assessment instruments and procedures for all major components.

An overall academic evaluation——via TABE posttests——determines whether the trainee's individual goals have been met and, if not, what further remediation is required. Also included in all evaluations are behavioral observations, depending on what the trainee is attempting to master. For example, many manipulative skills in the occupational areas can only be tested through actual performance. These are recorded and used frequently in monitoring trainee achievement and progress.

For most trainees, failure in education has been a way of life. Therefore, the major objective of this Individualized Manpower Training System is to break that chain of failure with a record of success. The System recognizes that trainee success hinges on quality materials and the ability of staff to diagnose, prescribe, and manage in such a way as to insure accomplishment of each step.

Staff Training for the IMTS

Because the IMTS is a systematic approach to learning it is by definition a network of interrelated procedures and instruments which staff must be trained to use. Indeed, funding for the IMTS project was provided for a purpose——to increase the number of qualified staff who can establish and operate a quality individualized system for prevocational and vocational training for youth and adults in need of basic remedial services. The project required the development of materials and a staff training program utilizing the techniques and technology specified for the Individualized Manpower Training System. It also required a rigorous evaluation component——for both the System and the Staff Training Program. IMTS staff training , then, plays a vital part in producing optimum results for IMTS trainees.

Delivery of staff training falls into five phases: orientation, establishing, operating, and, if possible, an internship phase. In–service training and technical assistance comes after the System is in operation with trainees. The approach to IMTS staff training is also individualized.

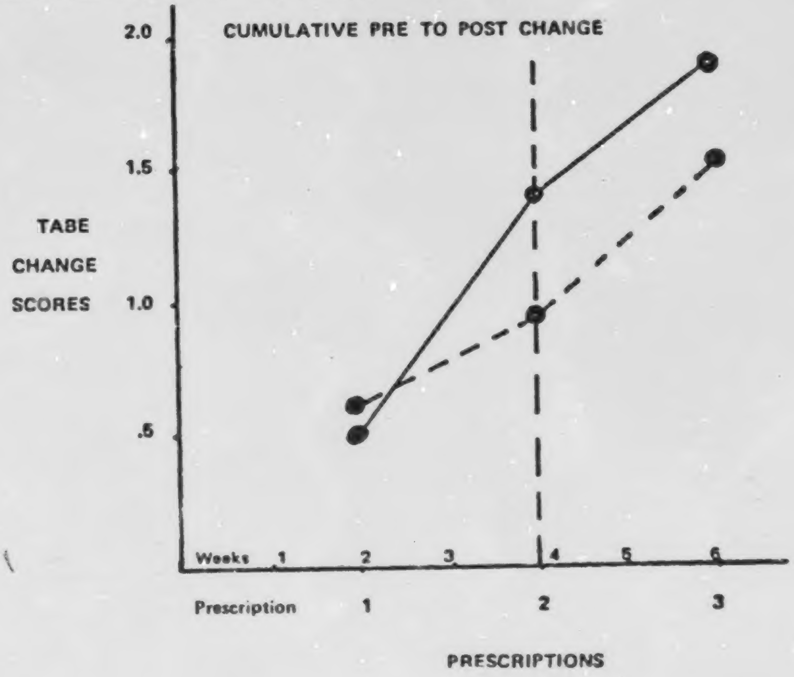
The concepts underlying this high–performance based system have also been applied to staff––both in the staff training program and in the operation of the System. A complete assessment design, the Formative Assessment and Management Program, has been developed which includes the task, conditions, procedures with criteria for task performance. In addition, instruments to assess job performance have been developed so that it is possible to have a quality System that can be accountable.

The staff assessment program is an integral part of the System. It includes both self–assessment and observer–rating techniques. There are also reporting forms on student progress––such as grade gains and rate––which are other key indicators of staff and System performance. The assessment techniques produce both summative and formative data aimed at program improvement and motivation for both staff and trainee achievement.

Results

Several teacher–educators have been trained to perform all staff training and to provide technical assistance to new sites. In Florida, for example, this service is being provided by a consortium of the state's colleges and universities.

The pilot–demonstration sites are making significant strides in producing functional Learning Resource Centers and are reaping the benefits for their trainees as well as themselves. All are impressed with trainee achievement as evidenced by the graph below which was taken from the records of one site.



This tracks the progress of one student, as compared to his group, over a period of 6 weeks, showing a significant gain in achievement from pre to posttest. This particular student advanced nearly 2 grade levels in the academic program, exceeding his group average during the 62 hours of instruction. Another operating site reports an average group grade gain of nearly 2.5 in some 60 hours of instruction in academic areas. A number of technical papers, brochures, and of course, the staff training materials are now available. TERC staff are prepared to assist those who would like to achieve a quality system for individualized instruction for youth and adults.

Technical Education in South Carolina

John C. West, Governor
State of South Carolina

I want to say to all of you here a rather belated official and formal welcome to South Carolina. We've been honored to have such a distinguished group as you here and I hope that your days here have been productive and I hope that you will return to South Carolina on some subsequent occasion. I spent a part of this morning with a group from the Education Commission of the State to pass force on alcoholism and it's unusual to have two National groups meeting in our State at the same time and I'm glad the energy crisis didn't prevent either of it. You've heard and I've reviewed your program of course from some of the real leaders in our State TEC's Program. Dr. Charlie Palmer, who has had the advantage of Tom Barton's expertise, Jake Salley, Bill Workman, Richard Cook and all the others.

As Tom indicated, we are very proud of what Technical Education has done for South Carolina. We're proud of what it's done for our State and I'm not going to try to embellish on any of the technical aspects of Technical Education; things I'm sure have been touched on of the various curricula programs as such, but, with your permission to sort of engage in a little personal reminiscing about "What Technical Education has done for South Carolina" because it is a success story.

It's a success story, involving more than just an inovation in education that happened to work. When we speak of Technical Education in South Carolina, we are speaking of a program that has changed the entire course of our State in the last 15 years. Because 15 years ago our State along with many other Southern states were still suffering from the affects of post-war economic slumps. Now, I'm not talking about post World War II or post Korean War, I'm talking about the War Between the States.

During that nearly 100 years, the South had gone through more economic crisis than the rest of the Nation had even known in its history. From the days of complete ruin immediately after reconstruction, we padded through the phases of agricultural decline, the rise and fall of King Cotton, the advent of a portion of the New Englad Textile industry coming to the South because they were looking for low wages and to excape Unionism, and that industry, of course, was a very narrow base. By the mid 1950's industry in South Carolina had become somewhat stabilized, but we were not making any great strides. There was still not enough jobs to go around. People were leaving the State in massive quantities. Between 1950 and 1960, over 200,000 citizens left South Carolina.

We suffered a net loss of population of 220,000 persons. That meant that more than 20,000 people, mostly young people we had educated and when they got to the taxpaying stage, they went up (you know the Black people had a favorite saying that was applicable to the Black and White alike; when they got out of school they went up the road to look for a job) and that is what had happened to South Carolina for a century. It was not a happy prospect that we faced in the mid 50's. At that time, the census of 1950 showed that our per capita income was less than 900 dollars per year and even by 1960 it had only risen to only about 1,300 dollars a year and that was less than 60% of the National average. In fact, our per capita income put us at the very bottom of the list. Occasionally we would say thank goodness we got Mississippi because they were the only ones lowest with any regularity and sometimes they would exceed us. So, it didn't take an economic expert to realize that something needed to be done. Obviously, we needed more jobs. We needed better jobs, and we also needed some way to attract industry to provide those jobs because we did not have the capital in South Carolina to provide for the industrial expansion to produce the jobs that were needed.

Back in 1959, we decided to take a look at what ought to be done, and we visited a lot of states. We spent a delightful 3 days in Arkansas; the Governor was very good to us--Mr. Rockefeller was head of the Industrial Development Program there at the time. We spent some time in Georgia and North Carolina studying what the problems and the possible solutions were. In many states at that time they had tax incentives-they were telling industry, you come in and we'll use our municipal tax exemption to build you a plant and you don't have to pay any taxes in 20 years. We thought seriously about that in South Carolina. Frankly, one of the reasons we discarded it was because I diden't think the Legislative would buy it. I tell now the real reason was we thought that is was a bad deal but at that time we were so desperate we probably would have tried it if the other aspect had not shown some promise. And that was the proposition of developing our human resources; our people. We felt that instead of offering industry from the North a tax exemption for five, 10 of 15 years or any of the other so called gimmick, if we could say to them, "You come to South Carolina and we will train your workers!" We told them if you were here we would put you in the black in a month- - that was the inducement we held out and fortunately thanks to wonderful people who got into the program at the very outset.

Tom Barton is an outstanding example - - we were able to keep some of those earlier commitments as Dizzie Dean says, "It ain't bragging if you dos it, and we dos it". But at any rate, in those early critical days, 1959-60, we revamped our Development Board, gave birth to Technical Education. I like to recall those days because as Tom indicated,

I was a very Junior State Senator, given the chairmanship of that Committee. Fortunately, in having a good Committee, our Junior United States Senator Fritz Hollings was Governon then and also on the Committee was the Chairman of the House Judiciary Committee, a young Legislator named Bob McNair, who was my predecessor as Governor. I told the Planning Committee a portion of this story and they though it was rather amusing; it's true and I will share that, maybe to tell you a little more about it.

At any rate, this Committee came up with these ideas particularly the Technical Education idea and in all frankness, the idea seemed fairly good at the time, but people who made it not just a good idea, but a brilliant stroke of genious were two first committees that were created which was completely from the private sector, business oriented and secondly, a wonderful stand, it was a symbol.

Tom Barton was the Chairman or the Director of the first Technical Education Center at Greenville. That Center got off to a roaring start, was emulated throughout the State. Part of my story is this - - all of us on that Committee began to bask in the glory of the success of TEC. It elected Bob McNair Lt. Governor and Governor; it elected Fritz Hollings to the Senate; it re-elected me to the State Senate, elected me Lt. Governor and then elected me Governor.

You know, politicians always claim credit for the good and put the blame on somebody else for the bad. I told the Committee this story which is a true one. Fortunately, Fritz nor Bob or I ever had an occasion to run against each other. And it's fortunate because at one political rally some years ago, a young man was the Master of Cerimonies and was introducing us all and he was reading the introduction that was furnished - - of course all of us had furnished the best introduction possible. He introduced Fritz Hollings first who was running for U. S. Senate; "Mr. Hollings while Governor created and established the Technical Education Program and is known as its father". Well, Fritz got through and I knew what was coming. He had my biography there and he said, "Senator West authored the act creating the Technical Education Program and is known as the father of Technical Education in South Carolina". When he got that out he stopped, turned to both of us with a little grin and said, "Fritz, you and John will just have to have a Paternity Suit!"

At any rate, the program was so good, the benefits had been so great that fortunately the credits had been enough for everybody to share. But as I say, the real credit goes to the people who made it work. The grandest idea in the world, the best Legislation in the world, are useless unless there is proper implementation.

Back in those days we got a hundred million dollars in new industry, we thought we had a successful year. This last year, we brought a billion, two hundred and 28 million dollars in new industry in South Carolina in one year. Without Technical Education we would still be at the bottom of the economic ladder in all of the meaningful statistics. Thanks to Technical Education, in 10 years we have trained nearly half a million people, that's approximately one half of our total work force having gone through some phase of training under our Technical Education Program. Today, our per capita income has increased to more than 3,400 dallars versus that 1,300 dollars in 1960. We are eighty per cent of the National average, 93% of the Southeastern average; the median family income computed at the end of 1960 was the highest of 8 other states - - more than 7,600 dollars.

Perhaps even more significantly though, statistics I think prove the worth of the program and the value of the program rather than the dollar and cents. Statistics is the fact that we are no longer losing that 20,000 citizens each year who went out of our State to find employment. Last year, for the first time since reconstruction, we had a net increase; we had immigration of citizens instead of out-migration. The most precious human resource known to our State and I believe to the Nation is people. When we were losing people we were losing vital life blood of our State. So, TEC now is an institution. A half million graduates of our programs are better trained, better paid, better educated than any other workers in the history of our State. Our economic growth has been shown in many ways. Not the least of which has been the benefit which our increased productivity, our increased per capita income has had in our Public School System. For example, in 1962 we had a per capita expenditure of education in our Public School System of only $260/ per pupil per year. Ten years later that had tripled to over $700. So I can credit the growth change in South Carolina to many factors, but there is one which stands heads and shoulders above all others and this is our Technical, Vocational Training Programs. I too would like to add a word of appreciation to Mr. R. D. Anderson and many others like him who struggled for years to make the Vocational Programs in our high schools the meaningful part - - the part which was not considered the "step child". Mr. R. D. and others, despite many local pressures, joined in this new system and the two have complimented each other. As Tom has pointed out today, we have come to a new philosophy in education in S. C. - - a philosophy which I think is spreading rapidly and I'm happy that we reached it perhaps a little earlier than some other areas, namely, that an educational system has got to be flexible. It's got to meet the needs of the people. A substantial number of persons fail in a School System--it's an indication of the lack of adequacy of the system just as much or perhaps more the individual's. So today, we have come to the realization that we have an obligation to formulate, to make available to al persons an educational system which will develop each his basic potential to the fullest possible amount--to give them the personal satisfaction of progressing, to give them the opportunity to become a part of our economic life. Had it not been for that, Technical Education's philosophy would not have caught hold as it has and reacted to the benefit of our entire State. So, in conclusion, I can say that we have been very fortunate in S. C. during the last 15 years; our old outlook has changed, opportunities have changed and I would leave with you these two observations: the success of our System and I often boast about it, I say that we have not just the finest system in the U. S., but the finest in the world, and I know that isn't very becoming to talk to some of you who are rivals, in one sense, but, the thing which has impressed me has been the spirit of cooperation between the States - - we borrowed heavily people and ideas from our neighboring state and other states, we hope you can profit by us, but, today I look upon the United States and particularly, South Carolina, as a new frontier for the world - - we have a tremendous amount of foreigh investment in South Carolina. People are coming here, and the Technical Education Program is the biggest selling point, but, the two points which I would leave with you, the two thoughts which I hope you will keep in mind in the success of this or any meaningful educational program which can have far-reaching affects is that (1) education must be relevant and responsive to the needs of a particular area and the society it serves; and (2) it takes a coordinated, combined team effort of the private sector, the business community, the public sector, including the political leadership and the educational leadership--if you get a blend of these elements, working together, then, you will have a tremendously successful program. Fortunately, this has been our experience in South Carolina and that is why we can look to the future with pride and assurance that there is a better life in store for future generations here.

APPENDIX A

AMERICAN TECHNICAL EDUCATION ASSOCIATION, INC.

Minutes of Proceedings

ANNUAL BUSINESS MEETING

Eleventh Annual Clinic on Technical Education

Carolina Inn
Columbia, South Carolina
March 28, 1974

President Jack Tompkins called the meeting to order at 4:30 p.m. He opened the meeting by making a report on the election and introduced the newly elected officers: Leon Hardison - Vice President, Harry Bigelow - President Elect, Mary Ellis - President.

Dr. Ellis gave a short statement about her hopes and plans for 1975. She will serve as President of both AVA and ATEA.

Mr. Richard Halvorson reported on progress of next year's Clinic at Spokane.

Dr. Tompkins introduced the Executive Director and Trustees. Mr. Bigelow gave a report on the election of the trustees for 1974. Election judges were: John Tracey, Oliver Rogers, Charles Whitehead, Thomas Stone, and Harry Bigelow. Four hundred fifty one mail ballots were cast for the five positions on the Board of Trustees. Winners were R. N. Culbertson, Arnold E. Metz, Roger A. Mussell, Arnold H. Potthast, and Barbara J. Walter. Mr. Charles Whitehead moved that the report be accepted. Seconded by Morris Roney. Carried.

Dr. Don Phillips, Chairman of the Nominating Committee for Trustees for 1975-78, read the list of nominees and moved that the slate be accepted. Nominated were: Dewey Yeager, Norman, OK; Paul Robertson, Albuquerque, NM; Lee Ralston, Los Angeles, CA; H. E. Miesch, Fort Worth, TX; Daniel Wise, Largo, MD; Robert Childers, Atlanta, GA; Ralph Caldwell, Jackson, MS; Virginia Dobbs, Mesquite, TX; Ted Talbott, Waco, TX; A. J. Miller, Columbus, OH; Michael Nisos, Washington, D.C.; and Jake Salley, Columbia, SC.

Before opening nominations from the floor, Dr. Tompkins stated the rules that must be followed to make a nominee eligible, (ie) must be a paid-up member, must state in writing that if elected will be able to attend meetings and serve, and must supply a picture and short resume of experiences before election.

Mr. Charles Whitehead then nominated: Jack Tompkins, Waco, TX; Lloyd Phipps, Urbana, IL; George Parkinson, Milwaukee, WI; Donald Phillips, Stillwater, OK; James Horton, Wahpeton, ND; and Leon Hardison, Memphis, TN. Roland Roy nominated Harry Pokorny, Milwaukee, WI.

It was moved by Mr. Roney to second the nominations and have nominations close. Seconded by Roland Roy. Carried.

Dr. Tompkins then introduced the Past Presidents who were in attendance.

The 1976 National Clinic was discussed by Dr. Tompkins. It was hoped that this annual Clinic could be held in the northeast area of the United States. It was scheduled for Maine. This group dropped because facilities would not be ready. He stated that anyone wanting to sponsor this Clinic should send a proposal to Dr. Mehallis at Miami-Dade, Florida. Mr. Arnold Potthast asked what would happen if no proposal was forthcoming from the northeastern area. Mr. Mehallis then replied "Move to the Central region" and then gave the schedule for future sites.

Dr. Tompkins then reported to the Trustees on actions at their meeting in regard to the agreement between AVA and ATEA to have joint sponsorship of National Clinics. He then read the following agreement:

In response to the request of the AVA-Tech Education Division represented by Charles O. Whitehead, acting on the directions of the Policy Committee, AVA Tech. Education Division.

The ATEA through the action of its Board of Trustees agrees that the ATEA, the U. S. Office of Education and the AVA Technical Education Division will sponsor the annual National Clinic on Technical Education. The ATEA will appoint the Chairman, and the USOE and the AVA Technical Education Division will each appoint a co-chairman to the program planning committee.

The ATEA will be responsible for logistics, physical arrangements, and fiscal operation of the Clinic. The role of the USOE and the AVA Technical Education Division will be primarily for purposes of establishing program content. By: W. Brooking, R. Midjaas, C. O. Whitehead, G. Mehallis.

Dr. Tompkins also announced that Mr. Fenninger was awarded all-expense trips to all future National Clinics. Mr. Fenninger responded with a thank you in his own behalf and especially from his secretary - daughter, Ruth.

Dr. Tompkins explained election process, he also felt the process should be changed by changing By-Laws along with a few other changes.

Announcements were made to have delinquent members pay their dues and that official ATEA pins were on sale.

Dr. Roney asked what action the Trustees had taken on the question of affiliating ATEA membership with the American Association for Advancement of Science. Dr. Tompkins stated the matter had been tabled. Dr. Roney asked that some action be taken, that the decision be given to the Executive Committee or some other committee, and then gave the advantages of belonging to a prestigious group like AAAS. After some discussion, including confirming remarks by Parkinson, Dr. Tompkins said he would advise the group that the Executive Committee would give it further study.

Dr. Tompkins then called on the new President, Dr. Ellis, for her ideas about next year. She said her objectives would be to make revisions in the By-Laws, to strengthen the Regional Council, to see that a policy and procedure manual is printed for distribution and to double the membership in all three areas - individual, industrial and institutional members. She said she hoped to make the National Clinic in Spokane, WA, the biggest and best ever.

Meeting adjourned.

Respectfully submitted,
Odin Stutrud, Executive Director

APPENDIX B

THE PROGRAM

Eleventh Annual
NATIONAL CLINIC ON TECHNICAL EDUCATION

Sponsored by
American Technical Education Association
and
United States Office of Education
Hosted by
Greenville Technical Education Center
and
South Carolina Board for Technical
and
Comprehensive Education

* * *

March 27 – 29, 1974

* * *

Carolina Inn
Columbia, South Carolina

Resolution for

William N. Fenninger

WHEREAS Mr. William N. Fenninger has demonstrated a life-long involvement in educating the youth of the nation for the world of work, and

WHEREAS he has been instrumental in establishing standards of excellence for post-secondary technical education, and

WHEREAS he has served with distinction and personal sacrifice as the first Executive Secretary of the American Technical Education Association from 1958 to 1973, and

WHEREAS he has been recognized by professional organizations and governmental agencies for his outstanding contributions to the field of technical education,

BE IT THEREFORE RESOLVED that the Eleventh Annual Clinic on Technical Education held in Columbia, South Carolina on March 27-29, 1974 be dedicated to Mr. William N. Fenninger for his outstanding dedication to the field of technical education.

PROGRAM
ELEVENTH ANNUAL NATIONAL CLINIC ON TECHNICAL EDUCATION

March 27,28 and 29, 1974

Theme
"Technical Education -
A Continuing Search for Quality"

Tuesday, March 26, 1974

5:00 - 8:00 PM	Registration - Mezzanine
6:00 - 8:00 PM	Attitude Adjustment Hour (Dutch) Marco Polo "C"

Wednesday, March 27, 1974

8:30 - 10:00 AM	Registration - Mezzanine
8:30 - 10:00 AM	Coffee and Sweet Rolls - Imperial - "B"

General Session 1 - Imperial - "A"

10:00 - 11:30 AM

Presiding:	Dr. Walter Brooking Division of Vocational & Technical Education United States Office of Education Washington, D.C.
Recorder:	Dr. Larry G. McDougle, Director Columbia Technical Education Center West Columbia, South Carolina
Welcome:	Dr. Charles E. Palmer Executive Director State Board for Technical and Comprehensive Education Columbia, South Carolina
Introduced By:	Walter Brooking

VISIT THE EXHIBITS
10:30 AM - 6:00 PM Wednesday and Thursday
10:30 AM - 12:00 Noon Friday

SUBJECT I

Keynote Address:	Dr. Bob E. Childers Executive Director, Commission on Occupational Education Southern Association of Colleges and Schools Atlanta, Georgia
Introduced By:	George Wallace, Director Occupational and Adult Education United States Office of Education - Region IV Atlanta, Georgia
11:30 - 1:00 PM	Lunch on your own.

General Session 2 - Imperial - "A"

1:00 - 2:30 PM	Achieving Quality Through Effective Programs
Presiding:	Odin Stutrud, Executive Director American Technical Education Association Wahpeton, North Dakota
Recorder:	Leon Hardison, Division Head Related Studies State Technical Institute at Memphis Memphis, Tennessee

SUBJECT II

Address:	"Improving Technical Education through Teacher Training" Dr. Don Phillips, Director Technical Teacher Education Oklahoma State University Stillwater, Oklahoma

SUBJECT III

Address:	"Effective Counseling for Effective Programs" Chester Pachucki, Public Service Institute . Loop College City Colleges of Chicago Chicago, Illinois
2:30 - 2:45 PM	Coffee Break - Imperial - "B"

2:45 - 4:00 PM	Discussion Groups Subject II - Marco Polo - "A" Subject III - Marco Polo - "C"
4:00 - 5:00 PM	ATEA Business Meeting - Imperial "A"
Presiding:	Dr. Jack E. Tompkins President, ATEA

Thursday, March 28, 1974

7:00 - 9:00 AM	Breakfast for Past Presidents Pagoda "DEF"
9:00 - 9:00 AM	Coffee and Sweet Rolls - Imperial - "B"

General Session 3 - Imperial - "A"

9:00 - 10:30 AM	"Achieving Quality Through Effective Program Management"
Presiding:	Robert A. Ferguson, Director Atlanta Area Technical School Atlanta, Georgia
Recorder:	Dr. John Lloyd, State Supervisor, Division of Post Secondary Vocational-Technical and Adult Programs, Atlanta, Georgia

SUBJECT IV

Address:	"General Overview - Management by Objectives"
	Dr. William W. Stevenson, Assistant Director Head, Research Planning and Evaluation Oklahoma State Department of Vocational-Technical Education Stillwater, Oklahoma

VISIT THE EXHIBITS
10:30 AM - 6:00 PM Wednesday and Thursday
10:30 AM - 12:00 Noon Friday

SUBJECT V

Address: "Joint Participation in Progressive Change Through Management by Objectives"

Dr. Jack Tompkins, Vice President
Texas State Technical Institute
Waco, Texas

SUBJECT VI

Address: "Now That The Fear is Over"

Delbert Morrison, Director
Duncan Area Vocational-Technical School
Duncan, Oklahoma

10:30 - 10:45 AM Coffee Break - Imperial - "B"

10:45 - 12:00 Noon Discussion Groups
Subject IV- Marco Polo - "A"
Subject V - Marco Polo "C"
Subject VI - Marco Polo "B"

12:00 - 1:30 PM Lunch on your own.

General Session 4 - Imperial - "A"

1:30 - 3:00 PM "Achieving Quality Through Supervised Work Experience"

Presiding: Clyde W. Hall Chairman, Division of Technical Sciences
Savannah State College
Savannah, Georgia

Recorder: Dr. Ruth Midjaas, Consultant
Vocational Education
Oakland Schools
Pontiac, Michigan

VISIT THE EXHIBITS
10:30 AM - 6:00 PM Wednesday and Thursday
10:30 AM - 12:00 Noon Friday

SUBJECT VII

Address: "Achieving Quality Through Supervised Work Experience Allied Health"

W. D. Workman, III
Greenville Technical Education Center
Greenville, South Carolina

SUBJECT VIII

Address: "Achieving Quality Through Supervised Work Experience - Criminal Justice"

Charles Fisher, Director
Institute of Criminal Justice
Miami-Dade Community College
Miami, Florida

SUBJECT IX

Address: "Achieving Quality Through Supervised Work Experience Agricultural and Industrial"

Gayle Wright
Parkland Junior College
Champaign, Illinois

3:00 - 3:15 PM Coffee Break - Imperial - "B"

3:15 - 4:30 PM Discussion Groups
Subject VII - Marco Polo - "A"
Subject VIII - Marco Polo - "C"
Subject IX - Marco Polo "B"

7:00 - 9:00 PM Tour - Midlands Technical Education Center

VISIT THE EXHIBITS
10:30 AM - 6:00 PM Wednesday and Thursday
10:30 AM - 12:00 Noon Friday

Friday, March 29, 1974

8:00 - 9:00 AM Coffee and Sweet Rolls - Imperial - "B"

General Session 5 - Imperial - "A"

9:00 - 10:30 AM "Assuring Quality Through Student Developmental Programs"

Presiding:
Richard Halvorson, Director
Governmental Affairs
Washington State Community College
Spokane, Washington

Recorder:
Harry Bigelow, Executive Assistant
Argonne National Laboratory
Argonne, Illinois

SUBJECT X

Address: "Achieving Quality Through A Student Development (Remedial Post Secondary) Program"

Dr. Arthur Cavano, Director,
General Education
Fayetteville Technical Institute
Fayetteville, North Carolina

SUBJECT XI

Address: "Developmental (Remedial) Programs in the Service - Air Force"

Dr. Lloyd Maxon, Chief Training
-Evaluation Division
USAF School of Applied Aerospace Sciences
Sheppard Air Force Base
Wichita Falls, Texas

VISIT THE EXHIBITS
10:30 AM - 6:00 PM Wednesday and Thursday
10:30 AM - 12:00 Noon Friday

SUBJECT XII

Address:	"Remediation Through Individualized Instruction" Dona Seay, Project Director Technical Education Research Center Montgomery, Alabama
10:30 - 11:00 AM	Coffee Break - Imperial - "B"
11:00 - 12:00 Noon	Discussion Groups Subject X - Marco Polo - "A" Subject XI - Marco Polo - "C" Subject XII - Marco Polo - "B"

General Session 6 - Imperial - A

12:15 - 2:00 PM	Luncheon Meeting - Imperial - "A"
Presiding:	Dr. Jack Tompkins President, ATEA
Recorder:	Dr. James Horton Vice President, Academic Affairs North Dakota State School of Science Wahpeton, North Dakota
Address:	"Technical Education in South Carolina" Hon. John C. West, Governor State of South Carolina
Introduced By:	Dr. Thomas E. Barton, Jr., Director Greenville Technical Education Center Greenville, South Carolina
2:00 - 5:00 PM	Industrial Tour
5:00 PM	Clinic Adjourned

VISIT THE EXHIBITS
10:30 AM - 6:00 PM Wednesday and Thursday
10:30 AM - 12:00 Noon Friday

NATIONAL PLANNING COMMITTEE

WALTER J. BROOKING, Education Program Specialist
Division of Vocational/Technical Education
U.S. Office of Education, Washington D.C.

RICHARD COOK, Division Head - Business
Greenville Technical Education Center
Greenville, South Carolina

MARY ELLIS, Director
Technical Education Research Center
Washington, D.C.

ROBERT A. FERGUSON, Director
Atlanta Area Technical School
Atlanta, Georgia

L.L. LEWIS, Director
S.C. State Dept. of Vocational Education
Columbia, South Carolina

GEORGE MEHALLIS, Director
Technical-Vocational Studies
Miami-Dade Community College
Miami, Florida

LLOYD PHIPPS, Chairman
Department of Vocational-Technical Education
University of Illinois
Urbana, Illinois

JAKE SALLEY, Associate Director
Columbia Technical Education Center
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Spartanburg TEC
Spartanburg, S. C.

Thomas, Darlene
Columbia TEC
W. Columbia, S. C.

Thornton, Fred R.
Tennessee Eastman Co.
Kingsport, Tenn.

Tillotson, Shirley
Spartanburg TEC
Spartanburg, S. C.

Titus, Roger
Piedmont TEC
Greenwood, S. C.

Toft, Robert
Cape May County Voc. Tech. Ctr.
Cape May Court House, N. J.

Tompkins, Jack E.
Texas State Tech Institute
Waco, Tex.

Tornell, Henry E.
Vocational Div/State Dept. of Ed.
Trenton, N. J.

Tutt, Robinson C.
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McGehee, Arkansas

Valk, John W.
Connecticut State Dept. of Ed.
Hartford, Conn.

Van Dyke, Jerry L.
McDowell Tech Institute
Marion, N. C.

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Palmer College @ Columbia
Columbia, S. C.

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B-C-D TEC
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Western Iowa Tech
Sioux City, Iowa

Walker, Eddie
Milwaukee Area Tech College
Milwaukee, Wisconsin

Wallace, George E.
U. S. Office of Ed.
Atlanta, Ga.

Walters, Lex
Piedmont TEC
Greenville, S. C.

Walters, Wm. Cecil
State Bd. for Tech &
Comp. Ed.
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Warren, Lena
Piedmont TEC
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Lorain County Com. College
Elyria, Ohio

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Fayetteville, N. C.

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Washtenaw Com. College
Ann Arbor, Michigan

Wells, Bill
Tulsa Jr. College
Tulsa, Ok.

White, Robert H.
S. C. Advisory Council
on Voc Tech Ed.
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Memphis, Tenn.

Whitney, Fred W.
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Voc. Center
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Wigginton, Quitman
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1561 Daffodil Dr.
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Wilson, Eric
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Pince George's Com. College
Largo, Maryland

Woodward, George R.
Florida Dept. of Ed.
Tampa, Fla.

Wooldridge, George
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W. Columbia, S. C.

Workman, W. D.
Greenville TEC
Greenville, S. C.

Wright, Gayle
Parkland Jr. College
Champaign, Ill.

Wysong, Richard M.
Indiana Voc. Tech College
S. Bend, Indiana

Yeager, Dewey A.
U. S. Postal Service
Noimer, Oklahoma

Youngblood, Robert
Allegany Com. College
Cumberland, Md.

APPENDIX E

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Pasadena, California 91105
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North 2000 Greene Street
Spokane, Washington 99207
ATTN: Richard Halvorson

APPENDIX F

PAST PRESIDENTS OF ATEA

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WILLIAM PABST

1944 - 1946
ANDREW D. ALTHOUSE

1947
EDWARD H. LANG

1948
WILLIAM N. FENNINGER

1949
WALTER J. E. SCHIEBEL

1950
GEORGE H. PARKES

1951
J. EVERETT HOLLINGSWORTH

1952
WALTER P. FERGUSON

1953
M. MARCUS KILEY

1954
LEE W. RALSTON

1955
GEORGE W. MORGENROTH

1956
CARL J. ANDERWALD

1957 - 1959
BURR D. COE

1960 - 1961
J. WILLIAM MOROSI

1962
WALTER J. BARTZ

1963
DONALD M. BRILL

1964
EDWARD B. VAN DUSEN

1965
IRA R. SANDERSON

1966
THEODORE A. KOSCHLER

1967
MAURICE W. RONEY

1968
JERRY S. DOBROVOLNY

1969
ROY W. DUGGER

1970
LUCIAN LOMBARDI

1971
RUTH E. MIDJAAS

1972
GEORGE MEHALLIS

1973
JACK E. THOMPKINS